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# GLEANINGS IN BEE CULTURE

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## EDITORIAL

By E. R. ROOT.

THOSE who live in the Southern States, or where the bees can fly off and on during winter, will need to look out for starvation.

### 1908 DEVELOPMENTS IN APICULTURE.

THE year 1908 may be said to have proven beyond any doubt the value of the gasoline motor for driving honey-extractors. Many power outfits were sold last year. The year also proved that cappings can be melted as fast as they fall from the honey-knife, without injuring either the flavor of the honey or the color or quality of the wax. These two improvements reduce the cost of producing extracted honey not a little.

### THE RATIO OF COST IN THE PRODUCTION OF COMB AND EXTRACTED HONEY.

THE reader's attention is drawn to a very interesting article by Mr. R. C. Aikin, in this issue, on the relative cost of the production of comb and extracted honey. Other practical men have before claimed that bees secrete wax at times involuntarily; that the ratio of cost between comb and extracted honey is not so great as was formerly stated. Our columns are open for this very interesting matter. If comb honey can be produced at approximately the cost of extracted, there will probably be more of it sold.

### AFTER DR. WILEY'S SCALP.

IT looks now as if Dr. Harvey W. Wiley, the consistent and faithful champion of pure food, might get out of favor with the powers that be. Dr. Wiley's position—at least so some of the best pure-food men in the United States tell us—is right, and certain whisky-dealers and large manufacturers are after Wiley's scalp because he is making them toe the mark. The President and Secretary Wilson should not, and we hope will not, allow the greed of corporations to degrade such a man. It will be a sorry day for pure food if Dr. Wiley is ousted, or his situation made so unbearable that he will have to resign. The administration had better by far be too strict in its interpretation of what are poisonous preservatives than to be too slack.

### MOVING BEES IN COLD WEATHER.

WE are getting frequent inquiries as to whether bees can be shipped in a box car with household goods in the winter. It all depends. If it is proposed to move the bees from a cold to a warm climate, we think no serious results will follow—possibly not if shipped from one cold locality to another. But it will be our opinion that the general stir-up in transit will cause the bees to expand their cluster, consume their stores heavily, resulting in dysentery. If the bees can not have a cleansing flight at the end of the journey the result might be disastrous.

During cold weather, probably entrance-screens would afford sufficient ventilation. But if the bees are to arrive in a warm climate, some more adequate provision for air should be provided. In that case, entrance and top screens should be furnished, the former covered with the regular hive-lids when passing through the cold part of the journey.

### OUTDOOR OR CELLAR WINTERING.

THE question is continually coming up, "Shall we winter indoors or out?" In latitude 40 or 41, outdoor wintering can usually be practiced successfully, providing a double-walled hive or winter case be used. As a rule, we may say that the average beginner will succeed far better by the outdoor plan, latitude 41. Where the winters are very cold, the mercury playing around 10 above zero for weeks at a time we would advise cellar wintering as being more economical of stores, and more likely to bring the bees through in better condition in spring. Cellars should be dark and dry; and if the temperature goes above 45 at intervals, it should be ventilated. The more the variation of temperature, and the higher it goes, the more ventilation should be provided.

### FOREST-FIRE DESTRUCTION, AND WHAT IT MEANS TO THE HONEY BUSINESS.

LAST fall, forest fires wrought fearful havoc in Northern Michigan, Northern Wisconsin, and Minnesota. Millions of dollars' worth of standing timber was destroyed, and much other property besides. To bee-keepers the principal loss has been the honey-bearing flora of the devastated area. A vast acreage of raspberry vines was swept away, on which many bee-keepers had obtained a livelihood from the honey alone. This will not be renewed for two or three years. The fires came too late in the year to allow the famous willowherb or fireweed to grow in time to produce a crop of nectar for 1909. It will probably cover the whole area in 1910, however, and, to some extent, save the situation Some bee-keepers, however, lost their apiaries as well as the flora.

It is galling to know that these tremendously destructive fires can be largely prevented with a little more care on the part of the lumber-cutters.

The two illustrations which we present to our readers in this issue will serve to show better than words can describe the terrors of a forest fire.

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# STRAY STRAWS

DR. C. C. MILLER

D. C. LEACH asks about catalpa as a honey-tree. I never heard of any one getting catalpa honey. I doubt if it is of any value.

FINANCIAL STATEMENT of Ontario B. K. A. (*Canadian Bee Journal*, 454) shows a cash grant from the government of $450. Good for the Kanucks.

O. A. KEENE wants to know what that honey reported, page 1303, was gathered from. Mostly white clover. I can hardly tell what the other was from. Perhaps a little heartsease, a little red clover, and fall flowers.

J. D. ARCHBOLD testified, December 7, that the Standard Oil Co. in 1907 had produced as one of the by-products of petroleum 204,992,478 lbs. of wax. If bees could use that sort of "wax" there would be a drop in the price of foundation.

OLIVER FOSTER tells in *Bee-keepers' Review*, p. 336, about wintering bees not in but over a pit. For ten colonies a pit 10 feet deep, 3 feet in diameter at the bottom, and 5×7 feet square at the top. A skeleton platform supports the hives, and a cheap building covers all.

LOUIS SCHOLL, I am beginning to weaken a little as to moving bees to give them new life. A writer in *Review* is very sanguine that he increases his honey crop by thoroughly shaking his bees. If enough of you agree about it I may conclude that I don't know all about bees.

THE BEES are unhampered, says Dr. Bigelow, in a glass hive which allows them to build as shown, p. 1495. I wonder now if the bees would feel any more hampered by Hoffman frames *around* their combs than by those sticks *within* their combs.

DR. BIGELOW, you are quite right that it is not true that all the bees of the hive work at one time upon one kind of flower, page 1498. There are also exceptions to the rule "that the honey-bee gathers only one kind for each load." At any rate, I've seen a bee flying back and forth from one kind of flower to another on the same trip.

CANDY-FACTORIES of the United States turned out 667,000,000 lbs. of candy in a year, or about 8½ lbs. per capita. Suppose we could get people to see that it would be better to have that much honey eaten. Then in a town of 2000, with another 1000 of surrounding population, there would be consumed 25,000 lbs. of honey. That would help the honey market, wouldn't it?

"THE EXTRA HONEY is money on big interest," page 1505. Right you are, friend Mendleson. The common question seems to be, "How little honey can I have in my hives in the fall so as not to have them starve?" It ought to be, "How much honey can be crammed into the hive in the fall without crowding the queen for room the following spring?"

J. E. CRANE, your philosophy about travel-stain, p. 1506, seems sound. Neither is it only a fancy "that with thicker and wider top-bars whiter surplus could be produced." I count no little on the effect of my top-bars 1⅛×⅞. One thing you didn't tell us: Doesn't your honey-board make more even work in the sections, instead of having the central sections finished so long before the outer ones?

BY WAY of emphasizing what Bro. Doolittle says, p. 1492, I may say that I would rather put bees in cellar three weeks too early than one week too late. One of the most uncomfortable feelings a bee-keeper can have is to feel that his bees ought to have another flight before going into the cellar, and with no certainty that a day warm enough will come before spring.

I WISH our billion-dollar Congress, in deciding as to its appropriations of millions here and there, would take it into its head to add a bit to the pittance allowed for apicultural investigation. With a man possessing such splendid ability as Dr. E. F Phillips at the head of affairs, I am sure that a larger sum could be used for the benefit of bee-keepers in particular and the nation in general.

IN WINTER, especially early winter, there is probably not as much danger from light in bee-cellars as generally supposed. If it doesn't lower the temperature too much, and you can't otherwise get in a big lot of pure air, don't be afraid to open up doors or windows, even if a little light does get in. Bees stand full light outdoors, and why shouldn't they in cellar if conditions are right?

J. E. CRANE, replying to your query, p. 1491, I think this territory is pretty well occupied with bees; but if *you* think of changing location I might consent to be crowded a little. Seriously, I have never counted this a first-class location for bees. With clover as the main dependence, when that fails the bottom is apt to drop out, and I have always thought that, if I were locating anew, it would not be at Marengo. Only one previous season came up to 1908. We do a lot of hard work fighting swarming, and that helps to bring up the yield *per colony*.

A. A. E. WILBUR asks whether it would be a good plan to have top and bottom bars grooved, and then use foundation splints long enough to be received into these grooves so as to make sure that the foundation shall not swing to one side at the bottom. It would be exceedingly troublesome to put in such splints. At least one end of the splint should be free to be put in with any degree of rapidity. If the splint were held in place at the bottom, that would keep the foundation from swinging out of true, even if the foundation were fastened in no other way. But that wouldn't be so well as to have foundation fastened at the bottom by a divided bottom-bar or by waxing; for if nothing but splints held the foundation in place the bees would be sure to have a passage between the foundation and the bottom-bar. I never yet had a splint held by top or bottom-bar, and never did a foundation swing out of true. But the foundation is fastened at top and bottom independently of the splints.

P. S.—Looking again at p. 755, GLEANINGS, 1908, I'm not so sure that B. F. Averill's plan of putting the ends of splints into grooves in top and bottom bars may not be as easy as or easier than mine. But it still leaves the necessity for providing against the bees gnawing a passage between foundation and bottom-bars.

# CONVERSATIONS WITH DOOLITTLE

## DIFFERENCES IN COLONIES.

"Mr. Doolittle, I believe I have the poorest strain of bees in the world, and I want you to tell me how to get rid of them and to get some that are first class. Can you do this?"

"Certainly. Kill those you have and purchase such as you would like."

"But that is not just the answer I wanted. I know that such a course would be all right; but is there no way of changing from the poor strain to one which is first class without killing those I now have?"

"Yes. But why do you say you have the poorest strain of bees in the world? Have you tried all the different strains which now exist? Have you tried all that exist in the United States, even?"

"No, I have tried none but those I now have, which came from a colony I purchased at an auction three years ago. Perhaps I was rash in my expression; but the larger part of my colonies do very little, while one, especially, has given me good returns the past two years. Now, if I could only have all my colonies equal to this good one I should feel quite proud."

"But the good one must have come from the original colony you purchased at the auction, and this shows that there is a marked difference in bees as to their working qualities. But it seems to me that your trouble is a case of selection rather than the adoption of an entirely different strain of bees."

"But why should this colony show such a marked difference from the other four? I have only five colonies in all, and this one gave me a greater surplus than the other four combined."

"The difference in the industry of certain colonies of bees has often been a surprise to their owners; but during a careful investigation for years, certain facts came to light which have enabled the careful and practical apiarist to overcome this matter to a great extent."

"Now you are getting at just what I want to know. How can this difference be overcome?"

"One of many great things having a bearing on this matter is breeding. The importance of breeding from our very best colonies is great, and is becoming better understood as the years go by; and the bee-keepers of America stand in the foremost ranks of the world on this particular question."

"Yes; but how is it done? Take my case with one good colony and the four poor ones for an illustration."

"Next year you should rear all your queens from the one which heads that best colony, and, as opportunity offers, have every colony you possess headed by queens reared from her."

"But do you think this colony as good as there is in the world?"

"It should not be, if your first talk about your bees had even a grain of truth in it. The one colony in two years' time, with no attention paid to breeding matters, could not be as good as some colonies headed by queens from those who have spent five, ten, fifteen, and twenty years in bringing their best colonies up and up till they stand at the very head of the list in the United States, or as nearly up to perfection as seems possible at the present time. There are a score or two of breeders in the United States to-day, who, in all probability, have bees as much ahead of those you have as yours are ahead of those found in their native haunts, where the uplifting touch of man has had nothing to do with them."

"Then why do I not kill all of mine off, as you at first suggested, and start anew?"

"Because it would be an unnecessary waste. Buy a queen, or a colony of bees, from some one of the breeders you have confidence in, and from such a purchased queen rear queens next season until you have one to head each of the colonies you may have in the fall of 1909. Or, perhaps, it might extend your vision and prove a benefit to you to keep the queen in your best colony, rearing one or two queens from her as well, and see how they will compare with those reared from your purchased queen."

"I begin to see now, and I thank you very much. But you spoke of certain facts which had to do with this matter as though breeding had not the whole to do with it. What are some of the others?"

"A beginner, like yourself, is often impatient for increase, and much increase means little honey, except, perhaps, from some first or prime swarm, or from some colony which is made just right, and at the right time in the season. All of the others are crippled on account of a lack of bees, or a lack of the proper number of bees in just the right time to take advantage of the flow of nectar which gives a surplus in your locality. In such a case, the beginner, with the best bees in the world (or even a man who has kept bees for years, but paid no attention to these things), would find himself in almost the same condition you have been describing to me about your two years' experience."

"I begin to understand; for the colony which has done so well for me was a prime or first swarm, as I call them, a year ago last summer, and this summer it did not swarm at all."

"Then in wet seasons bees generally get just enough nectar to stimulate breeding, which gives large numbers of bees, with hives crowded with brood and very little if any honey in the sections, except, perhaps, with some colony which comes up to the harvest in just the right condition so it does not incline to swarm, when, with only two or three days of a good nectar-flow, such a colony or such colonies will give a surplus, while those that incline to swarm will give none. Results in such cases devolve more largely on the management of the apiarist than upon the strain or quality of the bees. I admit that there are poor bees, but I know that quite a few of our most practical apiculturists of the present time believe that there are lazy bees, or those which have been bred so closely for color or some other desired point that their usefulness is very largely crippled. However, we can show that the fault is not altogether with the bees, when fifty to five hundred colonies accomplish little or nothing during any season, for close study will tell us that the season is a poor one; that our locality is overstocked, or that we as apiarists are not bringing every colony to the point where it is ready to take advantage of one or more flows of nectar when they come."

# NOTES FROM CANADA

By R. F. HOLTERMANN.

### CLOVER FOR 1909.

Before the editorial appeared, page 1365, I made a good many inquiries as to the condition of clover. I expected to find it much damaged. Alsike clover over a very large area in Ontario and in this vicinity is not damaged; but there appears to be some doubt about white clover. The hazy and smoky condition of the atmosphere preventing strong rays from the sun, and the heavy dews at night, no doubt were advantageous.

### ALSIKE CLOVER.

In Stray Straws for Nov. 15 Dr. Miller gives his experience with alsike clover. In Ontario, alsike clover rarely has a second crop. With abundance of rain, alsike sown in the spring sometimes comes into bloom the same season; but the bees rarely do much on it. Conditions which give vigor to a plant tend to abundant honey production, and these conditions do not appear to prevail at that time. This is the only solution I can offer.

### ONTARIO'S APICULTURAL STATION.

Ontario is at last to have a proper apicultural station, which is to be established at Jordon, a place on the shores of Lake Ontario, between Hamilton and Niagara Falls. There is already situated there a fruit experiment station, and it is upon a farm donated by S. D. Rittenhouse, now a Chicago multi-millionaire whose boyhood home was at Jordon. Mr. Rittenhouse has also given to the neighborhood a beautiful school, hall, and library, besides making other public improvements in the neighborhood.

The object of the apicultural station is to conduct experiments in the fertilization of blossoms by bees, to carry on apicultural investigations, and to provide a place where those of either sex can take a course of study in apiculture, and learn the practical management of bees. In Ontario it will be headquarters, under the government, for bee-keeping. The one in charge of the station will lecture to the classes at the Ontario Agricultural College, and possibly before the MacDonald Hall students who desire to learn bee-keeping.

The government realizes that Ontario is well adapted to the production of honey, and that the industry deserves encouragement on account of the honey and because of the benefit bees are to various lines of agriculture in the vicinity of the apiary. It is therefore the expressed desire to foster the bee-keeping industry in every reasonable manner; and from what I know the undertaking is to be carried out in a manner to reflect credit upon the enterprise and intelligence of the banner province of the Dominion.

When this station and the one contemplated at the MacDonald College, St. Anne de Bellevue, Quebec, get in full working order, let the United States look out. A friendly spirit of rivalry between the two countries in the direction of doing good work should result in much good to the bee-keeping ranks.

The department desires to secure the services of a young man who has a scientific training to enable him to deal with the various problems which may arise from time to time in such work, and who has sufficient practical experience to enable him not only to manage bees successfully but to conduct apicultural experiments. It is not easy to secure such a combination, but it is to be hoped that the good work decided upon will not lag for want of a suitable man. Bee-keepers who will look after the business can certainly congratulate themselves on the future outlook of the industry in Ontario.

### FOUL BROOD.

The fruit-growers, on account of the San Jose scale and other diseases, are reasoning something like this: For the specialist who will properly combat disease the outlook is better than ever, because he can keep under disease, and the one who has in the past grown fruit without paying much attention to its culture will be unable to do so on account of the prevalence of disease which, unless checked, will lead to the extermination of orchards. Convention after convention in Canada and in the United States would almost lead one to wonder if the same conclusions will be applicable to bee-keeping. Will it be only those constantly on the alert who will succeed in keeping their bees free from disease? I for one believe we can stamp out disease; but it must be done by means of thorough inspection and the hearty co-operation of bee-keepers who have been aroused to this co-operation by having pointed out to them the danger of neglect and inaction, and the certainty of a better condition by aiding the inspectors to know that they have bees, and helping them by letter and word of mouth to locate every colony in the district.

At the recent convention of the Ontario Bee-keepers' Association the various inspectors reported. East of Northumberland Co. several cases were found. Almost all, if not all, the inspectors stated that they had found more disease than they had expected. One inspector had found 41 per cent of the apiaries he visited this year diseased. Another inspector, J. L. Byers, had found European foul brood in his district. The tract of country affected was something like twelve miles square. It had proved to be very virulent.

No colonies should be left uninspected. At present there are many who keep bees who rarely examine the brood-chambers. Some colonies, owing to crooked combs, can not well be examined. It was pointed out that colonies so kept rarely paid the owner; and, as the vice-president said, they are often a menace to other bee-keepers. There was a desire manifested at the convention to help such bee-keepers to better-paying methods—and to help them, with the co-operation of the Department of Agriculture, to keep bees in a paying way. There was a feeling that it was to the interest of almost every one to have the carelessly kept bees out of the way.

The writer is compiling these notes on a trip to Amherst, Nova Scotia, to judge honey and give an address on bee-keeping at the Maritime Breeders' Association exhibition of stock, fruit, and honey.

# BEE-KEEPING AMONG THE ROCKIES.

By Wesley Foster.

Every one just now is preparing for a merry Christmas and a new year of happiness. What we prepare for we get, especially if we prepare it for another's benefit, and so millions of us will find this holiday season the richest of the year. The only trouble is we think of the new year as being only one day instead of 365. Let's plan for a happy new year clear up to December 31, 1909, and by that time we shall have acquired the habit of happiness and helpfulne.s which will qualify us for A. I. Root's Century Club.

### THE STATE CONVENTION.

The convention of the State Bee-keepers' Association provided a rich harvest for the many who attended, and the friendship of the craft was once more in evidence. I shall have a little to say of some of the discussions in later issues as well as in this paper.

### WINTERING CONDITIONS.

Northern Colorado apiaries are going to record considerable loss this winter, caused by the poor quality of the stores in the hives The prolonged cold weather has also made it hard for the bees to hold up.

The snowfall in the mountains has been plentiful, and water for the coming season is practically assured.

### OVERSTOCKING OR UNDERSTOCKING.

At the State convention Mr. W. C. Dyer said that he believed there was as much danger from understocking a location as from overstocking. He claims that, if the nectar remains in the flower, and is not gathered by the bees or other insects, it will dry down to a hard scale, and so stop further secretion in the blossom; but if there are sufficient bees, the flower secretes nectar for several days.

Mr. Frank Rauchfuss corroborated Mr. Dyer by saying that the fuchsia, when kept in the house, will show the scales of the dried-up nectar. The trouble from overstocking in the West seems to be more a lack of pollen than of nectar; and in many localities it is a very serious problem; so, after all, we can not cover the earth with bees as some of us would like.

### A GOOD DISPLAY-CASE FOR COMB-HONEY.

A grocer who buys honey in double-tier cases showed me a glass front or glass back which he puts on each one of his cases of comb honey. Instead of removing the top he takes off the back and tacks his glass door on in its place. This door is fitted with two spring hinges at the bottom so that it will close itself when let go. There are three very great advantages in this display-case. First, by placing the case in the show-window the original face shows on the outside, while the new face or rear displays the honey to the customers in the store. Second, every grocer who is doing a good business has need of all available space; and in half of the stores I visit, some other goods, usually jars of extracted honey, are piled on the lid of the case of comb honey. This glass door on the back leaves the top unmolested. Third, the door closes itself, and so keeps out all dust and dirt. The idea was copied from the glass face which is used on boxes of crackers.

### AGE DETERIORATES HONEY.

Mr. Frank Rauchfuss showed some comb honey at the bee convention, which was three years old. It had candied and liquefied several times, and the comb was but slightly cracked. The honey was liquid, but it had lost all of its original honey flavor, and was thick like taffy. Mr. Rauchfuss said that it could no longer be considered as honey. All the water, apparently, had left the honey, and nothing but a sticky syrup was left. A brick of candied honey also was shown which had shrunk considerably, but was still in the candied form.

The editor says the honey illustrated on page 1437, Dec. 1, Gleanings, is in a remarkable state of preservation. The wax may still be as pretty as ever, but the honey, if twelve years old, certainly would never be recognized as honey if it could be tasted separately from the comb. Do you know for sure, Bro. Root, that the honey possesses the qualities of a fresh well-ripened article?

A year ago I experimented somewhat with liquefying candied comb honey. I used the warming oven of the kitchen-range, and I not only liquefied the comb honey without melting the comb, but in addition I got the honey rather thick and sticky. More of the water was driven off than was good for the honey. The prolonged heat does this, and for this reason the liquefying of candied comb honey will never be a very great success. Evaporated or condensed honey in comb is what you will get.

[Honey would evaporate more in a Colorado climate than in the East, generally. The presumption is that a twelve-year-old Colorado honey would be very different from an Eastern twelve-year-old honey. With regard to the honey spoken of on p. 1437, we know no more than is there stated.—Ed.]

### FARMERS'-INSTITUTE LECTURES.

Mr. W. P. Collins, in his lecture on "Bees for Profit," takes up and covers briefly all the points in scientific bee culture, such as, hive to use, best breeds of bees, location of apiaries, bee-diseases, production of comb and extracted honey, packing and grading honey, selling and marketing honey, the value of co-operation in buying supplies and selling honey.

Mr. Collins lectures at the following institutes conducted by the Agricultural College. Any one within hearing distance will profit by listening to Brother Collins and talking with him personally:

Rifle and Coburn, Dec. 14–19; Delta and Hotchkiss, Jan. 4–9; Montrose and Oloathe, Jan. 11–16; Grand Junction and New Castle, Jan. 25–30; Rocky Ford and Canon City, Feb. 1–6.

# GLEANINGS FROM OUR EXCHANGES

By W. K. MORRISON

### HONEY GRANULATING ON THE HIVE.

Dr. Miller evidently does not care for the idea that comb honey on the hive should be removed to keep it from granulating. That depends on circumstances. Keeping comb honey on a single-walled hive in late fall is poor business in my opinion: on a double-walled hive with a chaff cushion on top of it would be a different proposition. In the ordinary single-walled hives the bees desert the supers during the chilly nights, and go down into the brood-cluster. The alternate chilling and heating hastens granulation, and nothing whatever is gained by keeping it on the hive in any case. It is much better to take it off, put it into moth-proof shipping-cases, and store it where the temperature runs between 80 and 90°. That's the *safe* way.

### MORE HONEY FROM KANSAS.

At Garden City the United States Reclamation Service has put into successful operation an irrigation system which depends entirely on steam-pumps which obtain water from wells This has proved a great success But it is proposed to construct a much more unique system of irrigation near the same place. In this case it is proposed to use electric pumps, the current to be furnished by dynamos situated 367 miles distant at Canon City, Col. Dams will be constructed in Colorado, and the water piped to Canon City where the power-house will be. In addition it is proposed to equip an electric railway, and also to furnish current to the settlers for lighting and power. It is needless to say that alfalfa and sweet clover will soon appear in large patches around Garden City, Kansas.

### DISTANCE OF APIARIES FROM HIGHWAYS.

The agitation in France over the distance apiaries must be from the highway, which was alluded to in a former article, has induced the Parisian Gleanings (*L'Apiculture Nouvelle*) to publish the rules established in the various departments of France where regulations have been provided by law.

In a few cases no rule has been legally established. In some the distance is set at 6 feet 6 inches, while in other instances it is fifty meters (162 feet). The department of the Rhone and the Ile-et-Vilaine have established the longer distance. In some instances there is also a provision for a close fence, usually about six feet. The table of distances is very interesting as showing the wide variation in regard to a law which ought to be the same in all cases. I can not understand why the distance is set at 25 meters in the Upper Pyrennes, while in the Lower Pyrennes it is only 10 meters. Does the nature of the honey-bee vary that much in a few miles?

### HONEY CIDER.

Mr. Crane objects to the use of the word "cider" in connection with the production of honey vinegar; but I can not find a word which suits the case better. We speak of apple cider, peach cider, pear cider, quince cider, etc., and why not honey cider? A good many bee-keepers would be glad, probably, to make honey vinegar, and the word "cider" gives them the cue. The Orange Judd Co. publish a book on the subject of cider; and if the bee-keeper will bear in mind that, to produce a good quality of vinegar, he has to imitate apple cider, the subject will be greatly simplified. All they have to do is to add honey to water until it reaches the same saccharine content as cider. This may be found out by means of a saccharometer. The subsequent treatment is the same as for cider vinegar. As a matter of fact, the honey cider or vinegar is the better of the two. It is not a *substitute*.

### BEE-KEEPING IN THE OLD NORTH STATE.

The North Carolina Department of Agriculture has recently issued a bulletin on bee-keeping which deserves more than a passing mention. There is probably an impression abroad that North Carolina is a poor country for bees, but such is not the case. In some parts the State offers excellent opportunities for the up-to-date bee-keeper, and the report on the honey-producing flora in this bulletin shows it. The climatic conditions are all right, and in recent years large manufacturing towns have arisen which supply good markets. Some of the nectar-producing trees are extra fine. Sourwood is equal if not superior to basswood, both in quantity and quality; and in some localities it is common. Gallberry and blackgum rank high, and are also common in some sections. The tulip-tree is a heavy yielder, and comes at a good time. Persimmon is good. Basswoood ranks seventh among the North Carolina honey-plants. Ironwood is a good yielder in the mountain districts, and there are many others.

### THE HONEY OF STINGLESS BEES.

The Associated Press recently gave wide publicity to the following:

STINGLESS BEES' HONEY POOR; PRODUCT OF HARMLESS ONES NOT SO GOOD AS OTHERS.

NEW YORK, Nov. 18.—There is no way to tell the "stingless" bee from the sting variety, according to G. P. Engelhardt, who has just returned to New York after collecting specimens from Guatemala, unless the investigator feels the bee. This is a sure but rather unpleasant method, adds the expert.

In an address at the Museum of Natural History before the Entomological Society last night, Mr. Englehardt told of his research work and disclosed the interesting fact that the bee without stinging power produced an inferior quality of honey.

Mr. Englehardt brought a number of specimens home, but the "stingless bees" nearly all died *en route*.

It all depends. I have seen *honey* from stingless bees that was simply vile—little better than sewage. On the other hand, some of it is fine, sweet, aromatic, and clear. It depends on the species you select, the kind of flowers the bees visit, the time of the year, and the degree of ripeness. We have only four or five true or *good* species of *Apis*, whereas there can not be less than fifty species of *Melipona*, to say nothing of *Trigona*, hence there is a wide difference in the honey collected. In the wet season tropical honey is too thin; but in the dry it is much better. It will be a long time yet before we know what we ought to know about stingless bees.

# GENERAL CORRESPONDENCE

## CAPPING-MELTERS.

### The Plan Advisable if the Honey is Not Injured by the Heat; a Glass Indicator on the Separator Pail; Experience with the Beuhne Capping-melter.

BY E. D. TOWNSEND.

[In explanation we will say that we made some different forms of capping-melters, and sent them to several large producers to try. The one sent to our correspondent was made after the Beuhne pattern, as this report shows. Our experience was much the same, viz., that the capacity of the Beuhne melter is far too limited, and that it is a more expensive and complicated apparatus than a device of the kind need be.—ED.]

A successful capping-melting device seems to be an assured thing; for when such practical men as Mr. Fowls and Mr. Lathrop say that it is a success it has great weight. There has never been any question in my mind but that a device could be made that would melt the cappings all right; but the question was, "Could the cappings be melted into wax without destroying the flavor of the honey?" This was a grave question; for, since 20 per cent of our honey goes through the uncapping-box I could not afford to have so large a portion of our surplus hurt by overheating. And now Mr. Fowls and Mr. Lathrop, in the Nov. 15th GLEANINGS, say that, with the latest device for melting the capping, the flavor of the honey is not hurt in the least during the process of melting the wax.

Mr. E. E. Coveyou, of Petoskey, Mich., advocates the heating of honey to 120 or 130° at extracting-time, and putting it into 60-lb. cans at this temperature. This process of heating throws out the air-bubbles; and honey thus treated is slow to candy, so it ought to reach the bottler in the liquid state. The bottler, receiving the honey not candied, would not have to heat his honey so long nor to so high a degree of temperature as would be necessary were the honey candied solid, as is usually the case. This is certainly better; since two heatings at a low temperature are less harmful to the flavor of the honey than one heating to a perhaps higher temperature when the honey is candied solid.

The bearing this has on the subject is, if a whole crop of honey can be profitably handled in the above-mentioned way, surely the 10 or 20 per cent of the crop going through the capping-melter, and probably not heated much if any more than Mr. Coveyou heats his, it would not have a noticeable effect on the whole crop.

I think, Mr. Editor, you are on the right track when you advocate a capping-melter with the idea of *melting* the cappings only. The cappings and honey should leave the hot melting-device as soon as melted, and the separating of the honey and wax be done in a separate utensil. In this way the honey and wax are heated as little as possible, and, as both may be harmed by too much heat, the plan is to be recommended.

In Fig. 6, page 1379, Nov. 15, under the gate of the capping-melter is shown what seems to be a 16-quart galvanized pail, with a gate at the bottom. This gate is for the purpose of drawing off the honey from the bottom, leaving the wax in the pail until the end of the day, or until there is so much accumulation of wax that it is advisable to empty the whole contents, consisting of honey and wax, into an ordinary pail, for the wax to cool before separating.

The writer has had some experience in drawing honey from under wax, and has often wished for a glass indicator in the separator—a piece of glass half an inch wide and three or four inches long, extending up from the gate, the tin being cut away and the glass put in its stead, so that one might see when to stop drawing honey before any wax begins to go through the gate. With such an arrangement the honey could be drawn out nearly to the wax. This glass indicator would probably become coated over with wax to some extent; but if this should happen, a stick could be worked up and down on the glass from the inside, and the hot honey ought to melt off any accumulation of wax that might adhere.

Less heat would be required to melt the cappings were the space at the top, between the two cans of the capping-melter, covered, except a small opening at some convenient place, this opening to be built wider for convenience in filling and emptying, also for heating uncapping-knives when one thinks it pays to heat.

#### THE BEUHNE CAPPING-MELTER.

After using the Beuhne capping-melter during the extracting of our fall honey (about 3000 lbs.) it would seem as if the machine should have about four times the capacity to do the work in an ordinary honey-extracting when the combs are nearly all capped over. With nearly all sealed combs of honey spaced wide, then uncapped deep, as we do, a capping-melter would be needed of quite large capacity.

To operate the machine, a two-burner low-down gasoline-stove was procured. Although the instructions that came with the machine called for a one-burner stove, the local hardware man had none of that size, so I took a two-burner. The instructions also advised filling the tank of the melter with hot water; but as all of our bees are in outyards, with no provisions made for heating water, the tank of the melter was filled with *cold* water. I was glad that our stove had the extra burner, for both were ignited, and the capping-melter set on the stove cornerwise. The two burners did not take long to heat the water in the tank, so the melter was ready by the time we were ready to do uncapping. When hot, one burner did the work.

Before beginning to uncap in the melter, two sticks, ⅞ inch square, and the proper length, were crowded in under the pan that catches the honey and wax, which raised the pan as high as it would go, and kept it from getting too hot. This pan is simply to keep the wax and honey hot until they separate, and there is no need of a great heat. This extra heat might have done no harm had the honey and wax been allowed to run out as fast as melted; but in the Beuhne machine, the separator arrangement being in this pan, the honey and wax are held for some time, and the heat should be no greater than is necessary.

The lower outlet of the heated separating-pan, the one that the honey runs through, has an elbow arranged so that it may be turned around;

that is, when the elbow is turned with the opening down, the whole contents of the receiving-pan will be emptied. If the elbow is turned up, nothing can run out from that outlet. Two-thirds the way up toward the top of this pan, and a little to one side, is an open tube. This is the wax-outlet. Near the top of the pan, and still further to one side, is a second wax-tube. To use the top tube the lower one is corked; but we used the lower one. Two pails are placed under these tubes, one for the honey, the other for the wax.

To operate, when the water in the tank is near the boiling-point the cappings are allowed to fall from the uncapping-knife on the heated tubes, to melt. From these the melted wax and honey run down into the aforesaid pan below, to separate, the wax going to the top and the honey to the bottom. The elbow to the lower outlet is now turned up so that nothing can run out of the separating-pan until it fills up to the level of the first or lower open tube. Probably 90 per cent of the mass that enters this pan is honey, and there would be but a thin scum of wax at first; so when the first sign of wax is seen running out of the wax tube, showing that the pan is full, the honey (or lower) tube is turned down, and the honey drawn from the bottom of the pan, but turned up again before the wax begins to run out. This process of drawing off honey is repeated four or five times, or until there is an accumulation of an inch or so of wax floating on top of the honey. When this condition has arrived, the pan is allowed to fill up until the wax is all run off the top of the honey, or until there are signs of honey coming through the wax-tube. Then the honey is drawn out as before, until another accumulation of wax is obtained. This honey being of the dark kind, I could not say whether the flavor was hurt in the process of melting the cappings or not. The wax was not hurt in the least, although it was not in condition for the market.

Nothing has been said of the main advantage of the capping-melter as I see it. The honey that usually goes to waste in the cappings, as usually handled, is saved. We use the McIntyre uncapping-box principally, and at best we leave at least three or four hundred pounds of honey in cappings each year, because we can not get it all out. This loss was saved this year on that part of the crop put through the melting-device.

Remus, Mich., Dec. 12.

[We are very glad to get this report from another extensive producer of honey. We always hesitate to recommend a device advocated only by those who keep bees on a small scale or who are in the business principally for pleasure. Our largest producers are beginning to favor the capping-melter, and this leads us to think more and more that the plan is very economical in more ways than one.

In regard to the strip of glass near the bottom of the separating-pail, we would say that the plan would undoubtedly be a success, although it would be quite expensive to insert such glass in the side of an iron pail, for it would have to be made tight enough to prevent leakage. So far, we have not felt the need of an indicator to show the amount of honey left in the pail, for the reason that we never draw off all the honey. We simply draw enough off so that there is never danger of the pail running over, and it is probable that at least two inches of honey remains in the pail all the time. Another reason why we have not felt the need of an indicator is that the mass of honey and wax is not at a high temperature when it leaves the capping-melter, and the wax very quickly becomes congealed enough so that there is no great danger of drawing off the melted wax at the bottom of the pail. If a very few particles of solid wax run out with the honey it does no great harm, as the honey should be strained any way with the rest that did not go through the capping-melter.

The illustration, p. 1379, Nov. 15, should show a wooden box covering the top of the capping-melter. The bottom of this box slopes down toward the center, where there is a large hole through which the cappings may slide into the melter. This box serves to confine the heat to quite an extent, so that a smaller flame is sufficient to give the degree of heat necessary.

The point mentioned by our correspondent in regard to the saving of the honey is a good one. It is impossible to get all the honey out of dry cappings; for, although such cappings stand for months to drain, there is considerable honey left; and, even though pressure is applied, there is entirely too much waste.—ED.]

## COMB VS. EXTRACTED HONEY.

### Amount of Honey Consumed by the Bees in Building New Combs not Absolutely Essential in the Solution of the Question; Wax Secreted Involuntarily.

BY R. C. AIKIN.

I have read Dr. Miller's note and the editor's reply, page 867 of the July 15th issue, and I consider the subject of the relative value of comb and extracted honey important, and one which is not generally understood. It is now over thirty years that I have been handling bees with my own hands, and during the past twenty years I have never had less than from two hundred to seven hundred colonies, with an average, perhaps of two hundred and fifty, at a safe estimate. During all of this time, excepting the first two years, I have been producing both comb and extracted honey; most of the time certain yards were run for comb honey, and others for extracted, and there have been few seasons when I have not produced *both* kinds in one or several yards. I have found that there has often been a fairly general average between the various yards, the proportion of one kind of honey to the other sometimes being about equal, although there is often more of *either* kind than of the other. I am speaking now of the yield as a whole and not of the yield per colony, as I will come to that later.

Dr. Miller says it takes from four to five pounds of comb to hold 100 lbs. of honey, and I think he is about right. New combs, and those not enlarged by burr-combs or bulges, will not yield more than two or three pounds of wax to the eight-frame hive; but old combs that have

been bulged, or that have burr-combs attached, yield a little more to the hive. I have several times melted a given amount of comb honey and then weighed the wax and honey afterward, and estimated that about four pounds of wax was needed to hold one hundred pounds of honey.

Following this is a discussion of the number of pounds of honey consumed in the production of a given number of pounds of wax. Dr. Miller says, "If it takes ten pounds of honey to make one of wax, it takes fifty of honey to make that five pounds of wax." From this he thinks that when combs are supplied so that none have to be built, there will result much surplus honey, perhaps a gain of 25 to 50 per cent. Now, I am not able to tell how much honey is consumed in the production of wax, for this is a problem that is exceedingly difficult of solution because of our inability to control all of the factors entering into it. We can feed bees and have them build combs, but we never know how much they obtain from the fields, nor how much of the feed they use for brood-rearing, etc.; and, besides this, we must remember that there is more or less loss or variation due to the several abnormalities that must of necessity enter into such experiments. It would take most thorough and painstaking experiments under the keenest of oversight to get any reliable data on this question of the amount of honey used in making wax. I have long desired to make a study of this, but have always put it off because of the seemingly insurmountable obstacles in the way. But while we may not settle the number of pounds of wax obtainable from a given consumption of honey, we may find the approximate proportion of comb honey obtainable compared with extracted honey produced under the same conditions. I have long been convinced that the popular estimates of this proportion have been much in error, and that there is no such great variation as is generally believed. I want to say right here that I think the question does *not* depend upon the number of pounds of honey taken to produce one pound of wax, for I have found that there seems to be a great amount of wax secreted, whether there is need for it or not; and I will give a few instances to support my belief, and I suspect that the great majority of those who read this can recall many similar instances proving that bees do secrete wax whether they have actual need of it or not.

### INVOLUNTARY SECRETION OF WAX.

Some years ago I received some bees in a wire cage that had been sent to me by express, and were several days on the road. These bees had been supplied with water and honey for the trip, and, when brought from the express office, they were fairly loaded with wax scales, and had built comb and stuck bits of wax all about the cage, so that, when put into a hive, they were ready at once for comb-building. These bees were not gathering honey, and had no need of comb, and yet they built it. I said they were not gathering honey; but the excitement and jostling caused them to keep their honey-sacs full most of the time during six days, and they secreted wax in great abundance without having made one visit to a blossom. I think that this points toward an involuntry secretion of wax.

We will take another illustration. Only yesterday I was working in an outyard, and I found one nucleus the bees of which had secreted wax beyond their needs, and had plastered it on the top-bars of the frames and on the cover, and they had used it also in lengthening cells unnecessarily. The instant I lifted the cover I noted the surplus of wax before moving the frames. The hive was about half full of combs and about one-fourth full of bees, so that there was empty comb in abundance, and not the slightest reason for wax secretion. This nucleus was one that had been made at least twelve days, and possibly about twenty-five days, before. I was looking to see whether the queen had been successfully mated, but I found that she had been lost; and as all the brood was hatching, there was none to feed. A light honey-flow had prevailed for three weeks when a hailstorm stopped it, and my examination was made about thirty-six hours afterward. The bees seemed to have been arranging the stores in the brood-nest because I had put combs of honey in such a position that they had to move some of it to get the nest in the proper shape. Now, under these conditions if the wax secretion was not involuntary, what was it?

This same thing was shown by many colonies in the yard—both those that had queens and those that had not. Colonies having supers in all stages of completion had a surplus of wax which was more or less manifest throughout. This would be but natural in the event of the sudden stoppage of a flow; but this flow was very limited, resulting in a gain in supers of not over ten pounds to the colony during the whole month; and had it not been for the free use of bait-combs there would not have been five pounds gain. The bees used the bait-combs first, full sheets of foundation next, and the starters were almost entirely let alone. In the brood-nests of the weak colonies and stronger nuclei where starters had been given in the brood-frames there was some comb-building on these starters which, under a fair flow, would have been drawn out into full combs. However, during even this slow honey-flow there was plenty of wax secretion.

In several hives where there was an abundance of empty storage and brood-combs the bees had gone out of their way to build comb, in one or two instances passing directly over a dry comb, next to the brood, and building all new comb from starters and from edges of broken combs. The queens showed a preference for the newly built comb, also going out of their way to lay in it. Many of these colonies had built burr-combs and put braces between the top-bars, all built of nice white wax. I am sure that bees *do* like to build comb, for many times I have noticed them using old wax and building comb when there was apparently no call for it whatever, except their desire to build it—this, even when conditions were not favorable for wax secretion. Now, if bees so desire to build comb that they build it when it is not needed, what about the comb-building tendency when all conditions favor and call for it?

When bees are forced, or when their honey-sacs are continually full, they secrete wax apparently without intelligence as to its need. When storing from the fields, or when they are stirred up within the hive, for two or three days at most they will secrete quantities of wax even though not an ounce of comb is constructed.

RAPID AND SLOW FLOWS.

In Colorado in general, and I think in practically all alfalfa districts where this plant is the source of honey, the flows are, as a rule, slow. Think of a flow lasting sixty days with an average daily gain of 2½ lbs. per colony! This, when ripened, amounts to 50 lbs., 25 of it being stored in the brood chamber and the rest in the super, making about one super of surplus per colony. Suppose we double this flow so that there is a five-pound daily gain for sixty days. This would give a surplus of fifty or sixty pounds. More than 25 lbs. would be stored in the brood-chamber, and some would be used for brood-rearing. For nearly thirty years I have kept a colony on the scales throughout the gathering season, and the man would be dull indeed who could not get at least a few points during that time with daily weighings.

In flows where the average daily gain of raw nectar is five pounds (there may be a gain of three pounds one day and six or more the next, just so it does not go over seven or eight pounds for more than two days in succession), the wax secretion will be sufficient for building all the comb necessary to hold it. All my observations lead me to the conclusion that, during an average daily gain of about five pounds, the bees of the colony will not only involuntarily secrete enough wax to hold all that is stored, but they will elaborate it into comb as well.

A hundred-pound surplus gathered in thirty days means at the very least a total gathering of 300 lbs. of nectar, resulting in a daily gain of 10 lbs. Now, if this flow comes on suddenly and fills all the empty combs of the hive before comb-building could get under way there would be a decided loss. But few bee-keepers ever have such a flow, and even those few do not have it often in a lifetime; and such an experience is altogther an exception.

Admitting all the foregoing, that is, admitting that the wax secretion is sufficient in all ordinary flows so that, if not used, it would go to waste, and that it will be elaborated into comb, we have not yet settled the matter. Any practical apiarist knows that, when the honey-flow is slow, it is hard to get the bees to work in the sections. This is not because of a lack of wax, but on account of a lack of honey, and because the bees are not crowded from the brood-chamber into the supers. With light daily gains the honey is more apt to be crowded into the brood-combs, from which young bees are hatching, thereby lessening the amount of brood and aggravating the swarming impulse. Nor is this all. The curtailing of the brood lessens the number of bees coming on for a later flow. Let me illustrate this point.

My locality has practically two flows—the first coming in the last half of June and the early part of July, and the second from August 1st to the 20th. Sometimes there is a more or less steady gain throughout the entire time from June 15 to August 20, but often there is a complete cessation between times, and much variation in the dates and duration of the flows. Nevertheless we look for the two flows Now suppose the first flow is late. The bees will not go into the supers, but will fill the brood-combs as fast as the bees hatch therefrom, and the eggs which the queen would otherwise lay in early July to get a host of workers for August are cut off. I estimate that, under such conditions, where my yield amounts to 50 lbs. of surplus, if those queens could be kept laying there would be added to the total yield an additional super, making three instead of two.

These last points have a bearing on the question, which will be explained more fully before I finish this discussion.

Loveland, Col.

*To be continued.*

## NATURAL SUPERSEDURE.

### This Plan of Requeening Not Suitable for Modern Methods of Bee-keeping.

BY J. E. HAND.

On page 927, Aug. 1, the Straw man takes me to task for intimating that natural supersedure results in deterioration. He seems to think that, if this were true, bees in their wild state would long ago have become extinct. Did you ever stop to think, friend Miller, that an all-wise Providence has provided a remedy for this evil in the survival of the fittest only, and that fully half of the bees in a wild state are deteriorated out of existence every year, thus weeding out the weaklings and leaving only the strong and hardy to breed a hardy strain of bees? While nature's plan of supersedure is well nigh perfect when applied to bees in their natural state, it is quite different when used in connection with modern methods of bee-keeping, since by supplying foundation, and by judicious feeding, the weaklings are saved to breed more weaklings; and the result is a weakened and inferior strain of bees.

On the other hand, by systematic requeening and rearing the queens from our choicest stock we are constantly improving our bees, and are really much nearer to nature's plan of supersedure than are those who oppose systematic requeening, and are laboring under the delusion that they are following nature's plan.

Mr. Editor, in your footnotes to Dr. Miller's remarks you say, "We find supersedure cells quite equal to those reared under the swarming impulse. I agree with you. It is not that such cells are not liberally supplied with royal jelly; for if the larvæ are removed, and others from a vigorous queen substituted, such cells will produce the best of queens. The laws of heredity are as fixed and immutable as the universe; and so long as the constitutional defects of the parent are transmitted to the offspring just so long must natural supersedure result in deterioration when used in connection with modern methods of bee-keeping; for natural supersedure is *prima-facie* evidence of a weakened condition of the queen.

As the farmer is compelled to meet the problem of keeping up the fertility of the soil by a judicious crop rotation, so the bee-keeper must face the problem of keeping up the productiveness of his apiary by systematic requeening or suffer the consequences.

Birmingham, Ohio, Nov. 2.

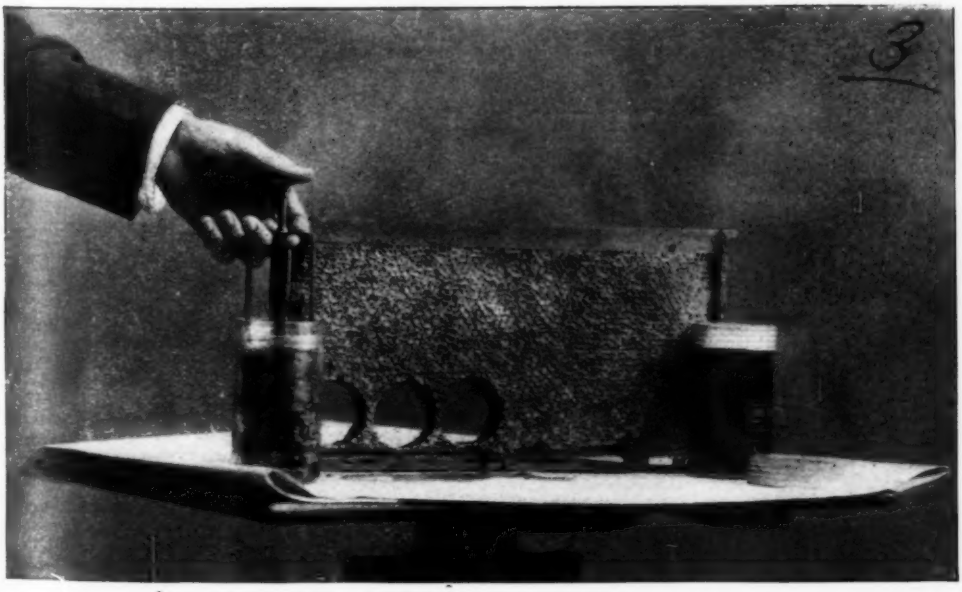
YOUNG'S HONEY-CUTTER IN USE.—PATENTED DEC. 11, 1906.

## A COMB-HONEY CUTTER.

BY W. J. YOUNG.

Every bee-keeper knows that bees, if given plenty of room, are more contented, and more likely to confine their efforts to the production of honey rather than to swarming. I use a little machine for cutting round pieces of comb honey out of combs and placing the same in glass jars so that I can produce comb honey without the expense of comb-honey supers and sections. This places the honey immediately in a package where it is non-perishable and almost non-breakable, and where it shows off to the very best advantage. As will be seen from the illustration, the device works very much on the plan of an ordinary cake or biscuit cutter.

In order to cut the honey it is necessary only to lay the comb on a clean board or a tray made




PLACING THE CAKES OF CUT HONEY IN THE JAR.

A FILLED JAR OF CUT HONEY.

for the purpose; press the cutter through the comb, then pull it out again, when it will be found that the cake of honey is retained in the cutter. By pushing on the handle the cake of honey may be quickly placed inside the can or jar, which should be ⅛ to ¼ inch larger in diameter than the cutter. The jars shown in the illustrations are 2⅝ inches inside diameter, 5½ inches in height, and they will hold from four to five cakes cut from combs of ordinary thickness. The weight of the comb honey runs from 15 to 17 ounces; and after pouring in sufficient liquid honey to fill the jar the entire weight is found to be about 23 or 24 ounces. The comb shows plainly through the glass and honey, and, when held before the light, is beautiful beyond description.

Tin cans may be used and covered with a suitable label, although glass jars provide a more handsome package. There is a little difficulty in getting jars and cans with large openings that will not leak, but I think this objection can be very easily overcome. It is important that the opening into the jar should be as large in diameter as the jar itself.

Arecibo, P. R.

[This is on the principle of a cooky-cutter. We have no doubt that it works very nicely, for we have tried something similar. It should be immersed in hot water just before cutting, to get the best results. In localities where chunk or bulk comb honey is in demand, as in Texas, something of this kind could be used to very good advantage.—ED.]

## ALFALFA-GROWING.

### Some Experiments to Show the Proper Time to Sow; Buckwheat a Valuable Crop.

BY CHAS. W. WINKLER.

After experimenting with the growing of alfalfa, sowing it both in spring and fall, we find that the latter gives us the better results. We do not lose the use of the ground for a season, and we are not troubled with weeds, which sometimes choke out the young spring-sown alfalfa plants, necessitating mowing several times. To ascertain the best time for fall sowing we sowed several pieces as follows: One field of ten acres, July 25; one field of ten acres, August 1; one field of ten acres, August 10; one field of twenty acres, August 12; one field of ten acres, September 1. All of these fields yielded well. The weeds made quite a growth on that sown July 25, the alfalfa being up a foot. That sown August 1 was freer of weeds. The fields sown August 10, August 12, and September 1, were entirely free from weeds. In the fields sown August 1 to 12 the alfalfa was up eight inches, and the young plants were well established. In that sown September 1, the plants, while thrifty, were quite small, and apparently not well enough established to withstand our winters. We therefore prefer sowing from August 1 to 12.

We use ground that has previously grown winter wheat or oats. We remove the crop, plow the ground and harrow it, and with a Cahoon seeder we sow broadcast 15 pounds of native alfalfa seed per acre, harrowing once to cover the seed nicely. We grow our own seed. One should obtain good native seed, free from dodder and thistle. This is very important. I know of a forty-acre tract that was a total loss just because there was a saving (?) of 50 cts. per bushel for seed. The seed was sown (25 lbs. per acre), and yet there was only half a stand; the rest winter-killed. Five pounds per acre of good seed, evenly distributed, would be ample, with perfect conditions,

for a good stand. I have seen splendid results with 10 lbs. per acre; but we prefer to sow 15 lbs. Most people sow 20 to 25 lbs., and there are a few yet who persist in sowing 30 lbs. of seed per acre.

One grower here demonstrated that buckwheat pays. He disposed of his crop, grown on 40 acres, for $2000. The enclosed photograph shows a field of Japanese buckwheat which we put in with a press-drill on plowed wheat stubble July 29. It was photographed August 21, average height 34 inches.

After cutting the buckwheat and removing it from the ground we sowed the ground to winter wheat again, using a press-drill. This wheat now looks exceptionally well.

Hastings, Neb., Oct. 1.

## SECOND-HAND CANS VS. NEW.

### From the Standpoint of one of our Leading Commission Men.

BY R. A. BURNETT.

The letter of D. Everett Lyon, on page 1245, Oct. 15, and your editorial thereon, have been read with much interest. So far as Mr. Lyon's complaint is concerned, it would have no standing, shall we say, in a court of equity, for the reason that the package nowadays is included with the sale of the contents. The practice of charging for packages that would be used again for the same purpose has become practically obsolete. For instance, the tub or package containing butter from the dairy used to be returned to the dairy after the contents had been used, or else the dairy received a compensation for it; but now when the package is emptied of its contents the owner may use it for some other purpose, or offer it for sale to some one else who may be able to use it for some other purpose than butter. Sometimes it is again used for butter, as, since the introduction of paraffined paper, the butter does not soak into the package as formerly, and there is, therefore, a less tendency to rancidity. However, as a general thing we may conclude that the re-use of packages for the same purpose as first used for is the exception and not the rule.

Then, again, honey is a delicate commodity, the flavor of which is easily removed by injudicious and careless manipulation; and, pray, what is honey without its honey flavor? In my judgment it would be simply a neutral sweet, which we often find to be the case where honey has been taken from the comb before it was ripened, or before it had injected into it what a witty friend of ours called "the bouquet." It is true that there are a few kinds of honey that have very little aroma, and as a consequence they sell for a lower price than honey with flavor, although in every other respect it is of high grade.

Tin cans should not be used a second time for marketing purposes, for the following reasons: Water should never reach the inside of a tin package that is to contain honey, especially one that is provided with a screw top or other small opening, for there is danger of the water not being thoroughly removed by heat. To put the cans on a stove, or where they can have dry heat, may melt the solder and the can will then open at the seams. A can should be simply shaken, and any matter that may be loose in that way may be removed, and then the honey put in without any water having touched the can, inside or out. After the cover has been securely fastened on, the honey may be removed from the outside of the can by water, after which the surface should be dried with a cloth and exposed to dry air long enough to evaporate that which the cloth had not taken up before being cased. Then if the can, after being emptied of its honey, has the top or cover put back on so that no dust or other defiling matter may get in, it can be used for honey again—that is, providing the honey that is again to fill the can is of the came color, for there will remain a small quantity of the first filling, despite the most careful effort to remove all.

Some years ago a large bakery had several hundred cases of the square tin cans that they wanted to dispose of, and sought our help in so doing. At first blush we thought these cans ought to be

JAPANESE BUCKWHEAT THIRTY-FOUR INCHES HIGH IN A LITTLE OVER THREE WEEKS FROM THE TIME THE SEED WAS SOWN.

fit for use the second time; but on further investigation we found that, after they had been emptied, there was some hot water put into them to rinse out what honey remained, which was put into a large vessel, and we were informed this was used to help make gingersnaps, as that form of cake, because of its color, will absorb a good many things without observable detriment; therefore on cutting open some of the cans we found that they had rusted on the inside, while free from it on the outside; and we do not know of any thing that injures honey more quickly than rust.

We have always discouraged the use of cans the second time, and have never offered them for sale, although we get a good many of them sent to us that have been used the second and perhaps more times. People who sell second-hand cans to producers of honey avoid buying honey in those cans themselves, giving as a reason for it that they are afraid the cans are rusted on the inside; and another reason is, they can't sell them so well when they have been used more than once.

From our experience of more than thirty years as honey-dealers we are ready to assert that the producer who buys second-hand honey-cans to put good honey into is losing money thereby, for his honey will not bring as much, as a rule, in old cans as it will in new. Even if the honey is of choice quality, the best buyers are afraid that it may be injured.

Chicago, Ill.

[Mr. Burnett is one of the largest dealers of honey in the United States, and his statements should have considerable weight. On the other hand, we should be glad to hear from the other fellow—the producer.—ED.]

## JAPANESE CLEMATIS.

### Preventing Robbing by the Use of Wet Hay Over the Entrances.

BY W. C. FURNAS.

I am sending you an enlarged photograph of a bee on the flowers of the Japanese clematis—*Paniculata* I believe it is called. I have never seen this vine mentioned as a honey-producer; but when in bloom here, from about Aug. 15 to Sept. 1 it is fairly alive with bees from nine o'clock until noon. The bees get from it a greenish pollen, and nectar also, I suppose. They were so thick over the vine that I frequently had two or three at one time in the field of an eight-inch lens two feet distant, and several of my exposures show two or more bees; but they work in such nervous, frantic haste that it is difficult to get a proper focus. I also send a photo showing the vine where the pictures were taken.

This beautiful vine is much used in my locality for shade and decorative purposes, and is said to be perfectly hardy everywhere. I have no means of knowing how much honey it really yields. There are perhaps some hundreds of vines within reach of my bees, but I do not suppose there is enough bloom in any locality to make any considerable difference in a honey crop. I consider it of interest as one source which might help tide over times when there is generally a dearth of nectar, and it must be interesting to any bee-keeper to see the way the bees work on the blossoms.

The last view is a fair illustration of the method so often described and advocated by Dr. Miller and others, of stopping robbing by closing

THE JAPANESE CLEMATIS AS SHADE FOR A PORCH.

the entrance with straw or hay, which is then well sprinkled with water. I have had but a limited experience with robbing, but have found this method effective so far as I have tried it. I usually leave a small opening at the corner, so that bees belonging in the besieged hive can pass in out and in.

Louisville, Ky., Oct. 16.

[Our correspondent did not mention this plan of stopping robbing by means of wet hay or grass strewn over the entrance, with the idea of bringing something new before the readers of GLEANINGS, for he knew that the plan had been before mentioned in these columns, and in several editions of our A B C of Bee Culture. Indeed, it is given the preference in that work over all others, for the treatment of robbing at the entrance of a hive where the bees are making a poor defense. His idea was to give added emphasis to this very practical way of overcoming a common difficulty, and we are glad to give space for the very clear illustration, which will, we are sure, make the matter plain.—ED.]

CLOSE VIEW OF THE JAPANESE CLEMATIS.

## A FIELD MEETING IN PHILADELPHIA.

BY W. J. ROBINSON.

I am sending you a few prints and a description of our bee-keepers' meeting held Sept. 19, at George School, Pa. If you consider the prints of sufficient interest, you may use them in GLEANINGS.

Germantown, Pa.

[In the newspaper clipping which accompanied the above letter, a full account of the meeting was given. The affair was in reality a field meeting, and a very interesting one too, judging from the illustrations. After many practical demonstrations an indoor meeting was held in one of the large halls connected with the school.

Field meetings are valuable in any line of business; but they are especially valuable in the bee-keeping line. A subject can often be explained much more satisfactorily if the different operations being described are actually carried out. A number of bee-keepers' associations all over the country are adopting this plan to make the meetings more interesting, and, in many cases, to

PREVENTING ROBBING BY COVERING THE ENTRANCE WITH WET HAY.

FIELD MEETING OF THE PHILADELPHIA BEE-KEEPERS' ASSOCIATION.

save the time ordinarily taken by long explanations. We wish to commend the idea as being worthy of the consideration of all societies.—ED.]

## PARCELS POST.

### The Objections Found to be Groundless by a Study of Conditions in Other Countries.

BY THOMAS WM. COWAN,
*Editor British Bee Journal.*

For some years I have watched the controversy respecting parcels post, and have been surprised at the objections put forward — objections that have proved to be groundless considering the very satisfactory manner in which parcels post works in Europe. When I was in California I supplied a friend who was President of the Postal Progress League, with statistics which showed what an inestimable boon parcels post has been to all classes, and how, instead of being a hindrance, it is a stimulus to trade

I see in GLEANINGS, page 1309, an extract from *The Shoe and Leather Gazette*, in which an endeavor is made to show that parcels post would be an advantage to the large mail-order houses, and an injury to the smaller local merchants. This is not true, for we have found it has been just the reverse. Small shopkeepers who could not keep a large stock of goods formerly lost orders because they could not compete with larger firms who, with their larger capital, could afford to keep a large stock. Since the introduction of parcels post all this is changed, and these small shopkeepers have been able to get a living, as they do not need to have a large stock on hand, samples of the different goods being sufficient. Customers select from these samples, and the goods are delivered at their doors in from one to three days, at the same prices as would be charged at the large houses. The customer does not pay more, but the tradesman gets his legitimate profit.

It does not appear that the wholesale houses have suffered in any way, and there is no doubt that the small dealers have been benefited, and the benefit has extended to the purchasing public, for it has brought shopping facilities of the city within reach of every one in the country. No doubt your express companies will suffer; but is it not an anomaly that it costs more to send a parcel from New York to San Francisco by express than it does from London to, say, China by parcels post? Even parcels from London to different points in the United States cost less for postage than the express charges in the country. If the express companies can make a profit on English parcels after deducting cost of freight by steamer across the Atlantic, they are surely charging too much for carriage of parcels in the country. It is surprising to us that a practical people should have so long kept out of parcels post, and submitted to exorbitant express charges. No one in Europe would for one moment advocate doing away with the advantages we now derive from parcels post. I hope you may also soon share the same benefits with us.

Taunton, Eng., Nov. 30.

## THE ADVANTAGE OF A CAGE FOR PREVENTING ROBBING.

BY E. M. GRAVES.

I wonder how many readers of GLEANINGS use a cage when working their bees. I have been using one several years, and would hardly know how to get along without it, for I consider it one of the most useful fixtures about an apiary.

With a cage to set over a hive one can work in comparative comfort all day long, and seldom get stung. Bees are very sensitive creatures, and they do not like robbers about their homes. If we open one of the hives, and a hungry lot of

robbers commence to steal from them, how mad they will get! and we are almost sure to get stung. We can do any kind of work with them when using a cage, but it must be so tight that the robbers have to stay outside; and, no matter how much of a roar they make outside, all will be quiet inside, even when very little smoke is used. Very often, with no smoke at all, we can do all the work we want to, and as leisurely as desired.

The cage is very handy in queen-rearing, both in handling the old stocks and going through the nuclei and mating boxes. I set the cage centrally in the mating-yard, pick up the boxes one after another, take them inside the cage, and, after closing the door, I am alone with the little colony without any robbers to make me or the bees nervous.

HENRY M. TWINING DEMONSTRATING BEFORE THE PHILADELPHIA BEE-KEEPERS' ASSOCIATION.

The cage I use is made very much like the one shown on p. 1261, Oct. 15, only it is somewhat larger. I made mine in four panels. The two for ends are 3½ feet wide and 5 feet 8 inches high. Each panel has two posts, and two girts sit two inches from the ends of the posts. Then there are two sides 5 feet 6 inches wide, and the same height as the ends with girts at top and bottom, the same as the ends. All are held together with ten-penny finishing nails, one at each joint or four to each panel. There is a door that takes up half of one side, made in the same manner, only the girts or cross-pieces at top and bottom are set close to the ends of the side pieces of the door. There is a middle post which the door swings on. Two-inch butts allow the door to swing, and a small hook fastens it shut so it will stay shut and not be swinging when we step inside. I take hold of the two small bars that run along the sides, and carry the cage easily about the yard. A top part is made in much the same manner, and all is covered with wire cloth; but I do not use it very much, as I find it is not needed in general work; if one were transferring, cutting out combs, or cleaning up an old neglected swarm then it would be all right to put it on, and be sure all is tight around the bottom.

I used ⅞-inch boards ripped up 1⅜ wide, and the four panels are bolted together at the corners with $\frac{5}{16}$-in. bolts, so I can take it apart and house it when the season is over.

The whole thing is easy to make, and is inexpensive; and that is not all. It is not heavy to handle, and it is just as light to work in as it is without it. This cage will not blow over as easily as one made of cloth netting, and is much more durable.

Ioamosa, Cal.

[We use large cages as well as small ones at all of our queen-rearing yards. Indeed, we regard them as indispensable during the robbing season.

For the production of honey they are not so necessary. Most bee-keepers do without. —ED.]

AN INTERESTING MOMENT IN PRACTICAL DEMONSTRATION.

AFTER THE FIRE.

This very graphically shows the devastating effects of forest fires. In Northern Michigan, Northern Wisconsin, and in Minnesota, forest fires last fall were very destructive.

## A STUDY OF THE CONDITIONS IN A BOX HIVE.

### Would Not Wider Spacing of Combs Provide a More Natural Clustering-space for Winter?

BY J. A. CRANE.

I have seen the question discussed as to why bees often winter better in a box hive than in a good chaff-packed hive. I have thought often on the subject, and had accepted the theory advanced that the frame hive allows cold drafts around and over the frames. I still think that is one of the main causes; but how often do we find straight combs in a box hive or bee-tree? I think it is safe to say that crooked combs are the rule; also that the crooks and turns and also the pop-holes are so arranged by the bees, either by accident or intention, as to prevent almost entirely any draft in the hive except such as the bees themselves set up for ventilation or evaporating honey. I have examined carefully all the box hives I have transferred for the last two or more years, and have found this to be the case in every instance, although I think I have seen one or two cases where the combs were about as true as foundation-built combs; but in no case do I recollect their being built straight away from the entrances, as in our hives.

Another thing which seems to bear on this theory is that, no matter how few bees there may be in the box colony, so far as my experience goes, there is never any candied honey. This spring, after severe losses I purchased a lot of box hives which were a caution to look at. Two had no covers whatever—only some sticks laid across the tops. There were from four to six mouse-holes in the sides, and the hives were so rotten that I had to wrap them up in sacks to keep the bees in to take them home; and I rode in fear of the load collapsing before I got home. However, when it came to transferring I found that I could have rolled the hives down hill and not got the combs apart. They were built in angles and circles, and fastened together in all shapes; and, strange to say, there was not one cell of candied honey, even away in the corners of the hive, where the combs were two or more inches thick, while in my chaff hives with straight combs the honey is candied clear to the cluster. I transferred these bees during cherry bloom, and, without trying to save any but good pieces of brood, I filled from four to five jumbo frames with brood, and they soon became the best colonies in my yard. I have also noticed that many of the combs are a great deal further apart than our regulation spaces allow—from 1½ to 2½ inches. This permits the building of combs fat with honey at the top and sides, and thinner for the brood lower down, thus providing an ideal clustering-place for the bees. These bees wintered with a loss of only 6 per cent, without even a tree for protection, and with a mouse-nest as large as a quart measure, with two full-grown mice running through the combs after I had drawn them seven miles, while my loss was nearer sixty per cent in first-class well-packed hives.

I know we do not want such conditions in our hives; but I believe if we could get nearer to them through wider spacing, thus giving thick combs of honey around the cluster, and wide spaces between combs for the cluster, with an entrance in one corner, we could pass a bad winter with less loss than at present.

I am not advocating any new system on these lines; but do not these facts go to show that the bees are not in a state of nature in modern hives which need so much protection, while they wintered perfectly in a box little better than a potato-crate when allowed to build this home after their own blue prints and specification?

Marion, N. Y.

AFTER THE FIRE.

This very graphically shows the devastating effects of forest fires. In Northern Michigan, Northern Wisconsin, and in Minnesota, forest fires last fall were very destructive.

## UNCAPPING.

### The Angle and Speed of Blade Important; the Advantages of Cutting Down Instead of Up.

BY F. B. CAVANAUGH.

I wish to add to what has been said in favor of the cold uncapping-knife versus the heated, and in addition to cite some good reasons for cutting downward. I wish also to show why it is preferable from the standpoint of dollars and cents to dispense with the hot-water device entirely.

To keep the knife sharp is good practice; but a proper inclination and speed of the cutting edge are of more importance. A comparatively dull knife will do clean work if a quick slanting cut is made. Notice the principle of the scythe, the angle of the cutting blade. Note that, even with a dull blade, speed will greatly enhance the cutting efficiency.

Our circular saws require a certain speed for highest efficiency. Why not ascertain the proper speed for the uncapping-knife also, and then approach it as nearly as possible?

In uncapping I invariably cut *downward* with the knife-point inclined upward about 45 degrees. I catch the upper nearest corner of comb surface with a forward thrust, then bring the knife forcibly downward at a similiar angle, completing the cut at the bottom end by bringing the blade into a horizontal position. If a small strip is left I catch it coming upward.

This method requires wrist power, speed, and a little skill derived from practice. I have found no advantage in very deep cutting, although the beginner who aspires to become a rapid uncapper must expect to cut deep sometimes, and to run the knife out occasionally, but perhaps no more so than by other methods, however. Time saved is money earned, and the downward uncappers are much the speediest.

Now notice for a moment the mechanical advantages of cutting downward over cutting upward. First comes the weight of hand, knife, and capping assisting in the former method, impeding in the latter; second, the pressure in the downward cut holds the comb solid on its support. The upward cut tends to unseat it. Third is safety in the employment of speed while the upward cutter is likely to cut the left hand if much speed or force is exerted. Fourth, in cutting downward the cappings are thrown directly downward into the receptacle instead of catching on the unsealed surface of the comb. Fifth, the easy and natural position of hand and wrist, and downward pressure, causes much less strain on

all muscles employed than does the upward stroke. These items become important in a hard day's work when the operator is taxed to the limit.

The use of hot water on the knife, and the "sawing motion," are both peculiar to the operator who cuts upward, and who necessarily employs little speed. I have not mentioned the waste of honey in hot water, the oil used in heating the knife, nor the extra time wasted in changing knives. All are items worth considering, but not of as much importance as others I have mentioned.

I find that beginners invariably cut upward when uncapping if left to themselves.

I suppose it seems more natural this way, because they can see the cutting edge of the knife. I always insist on my method being adopted for the first two days, and have yet to find one who would go back to the old up-cutting method afterward.

Some may think that the cold knife will not work in thick honey. Perhaps it may wrinkle and break the cappings somewhat, which does not signify much. The underlying surface of the cells will still be found in good shape if proper speed is used. Where honey becomes too thick to be uncapped with a cold knife it is also too thick to be extracted without heat.

I have viewed this question purely from the point of economy of oil, honey, time, and energy, and backed by years of experience in both methods of uncapping.

Any one who will lay aside present methods, and persist in uncapping downward for a few days will be convinced that the method is correct, both in theory and practice.

Springport, Mich., Nov. 16.

[This is the kind of testimony we like to get hold of, because it smacks of *experience* direct from the field.

We dare say that 99 out of a hundred of those who produce extracted honey use the upward stroke in uncapping. It does not always follow that the majority is right. We should like to have this subject thoroughly discussed.—ED.]

## PROPER SHAPE FOR UNCAPPING-KNIVES.

### A Valuable Article.

BY ELIAS FOX.

Referring to Dr. Miller's Straw, Nov. 1, I should like to ask why it is necessary to use a straight-handled tool in plain work, and one with offset handle or straight handle and curved blade to reach the depressions. The Bingham knife, with the offset shank as now made, successfully uncaps the entire comb with ease, no matter whether straight, curved, bulged, depressed, or full of holes. For straight smooth combs, the entire length of the blade comes in play; and for depressions, large or small, holes and zigzag corners, the rounded point perfectly fits them all. So, continue to give us the old reliable Bingham.

HONEY EIGHTEEN YEARS OLD.

In reply to the Straw on the same page, regarding the keeping qualities of honey, I should like to ask what the age limit is. Two years ago I had occasion to liquefy some buckwheat honey that had been kept in an open-top six-gallon stone jar for 18 years. So far as the appearance and flavor were concerned, I could detect nothing wrong. The honey seemed to have undergone no change since the day I put it in the jar, although it had been used down until there was only 15 lbs. left, and it was as dry as sugar.

COLONIES DO BEST IF THEY HAVE NO SHADE.

In regard to the article by J. C. Davis, page 1315, Nov. 1, I will say I have one yard inclosed by a seven-foot board fence, and the hives are arranged around the entire space close to the fence. A part of them, therefore, get practically no sun during the forenoon, and others none during the afternoon, except what little comes through the cracks. The space inside is filled with hives facing south, in rows running east and west. A few are partially shaded by two apple-trees, but the most of them have no shade whatever. There is no difference in the yield, other conditions being equal. My best colony in this home yard faces southwest, and during the honey-flow it has not a particle of shade before 6 P.M. Since I wrote the letter which was published in the Sept. 15th issue, page 1140, I have extracted 25 lbs. more from this hive, or a total of 450 lbs., and the bees have plenty for winter. For my part I don't want any shade, and I would not give a snap for even a shade-board.

COLONIES IN TREES HAVE PLENTY OF WINTER STORES.

I cut twelve bee-trees this fall, and saved the bees, but I put two swarms together, thus making six of the twelve. This brings my bee-tree yard up to 21. The trees cut this fall, with one exception, had plenty of honey—one 60 lbs.; two 75 lbs. each; one 100 lbs. The rest ran mostly from 25 to 40 lbs. I did not care especially to save the bees, but I can not take the honey and leave them in the woods to starve. I saved all the brood by piecing it into empty frames, and several frames were filled with honey by piecing in the same way, and supported by tying common twine around them. In two days the pieces are nicely fastened together, and the frames and strings removed.

I have never had any experience in handling bees before an audience; but in removing bees from the hollow log after securing the honey I reach in and take them out handful after handful, and very rarely get a sting. If I do, it is always my own fault.

Hillsboro, Wis.

[This matter of shade is something that depends on locality. In your climate it is conceivable that shade or sunshine would not make much difference as to the yield of honey. In other localities, reports seem to show that where there is too much shade colonies do not do as well, and, of course, furnish less honey than those colonies that are more out in the open. On the other hand, in hot climates shade is absolutely necessary.—ED.]

HOT UNCAPPING-KNIVES PREFERRED; CUTTING DOWN EASIER THAN CUTTING UP.

I noticed an article on page 1126, Sept. 15, on the use of uncapping-knives. I have uncapped

with both hot and cold knives, and have worked in New York and California, and I say, *give me a hot knife*. A cold knife works in New York satisfactorily; but when I came to uncap sage honey I wanted a hot knife, for a hot knife cuts the cappings a great deal easier than a cold one.

I always have a whetstone on the uncapping-table, and sharpen my knife every morning, and several times during the day.

I never could make a success of uncapping by drawing my knife *up*. I always shove it *down*, making a clean smooth cut. The cappings will not stick to the comb back of the knife, but will roll into the uncapping-box without holding the frame leaning to one side. Always hold the frame perfectly straight up and down; and when you draw your knife back, cut off the patches of cappings not reached on the down stroke.

San Diego, Cal., Oct. 5. F. G. BOLLING.

[So this question of a hot or cold knife is dependent on the kind of honey. Is that true?—ED.]

### HOT OR COLD KNIVES FOR UNCAPPING.

By all means use a hot knife for rapid work. We use three at a time—two heating while uncapping with the third one.

El Toro, Cal. G. W. BERCAW.

[This is a good report, and the kind we want. Let us hear from others. "In the multitude of counselors there is wisdom."—ED.]

## BEE-KEEPING IN THE IMPERIAL VALLEY OF CALIFORNIA.

### An Effort to Establish Priority Rights in Regard to the Bee Territory; a Scheme to Prevent Overcrowding.

BY J. W. GEORGE.

You will find inclosed a bulletin gotten out by the Imperial Valley Bee-keepers' Association, which is self-explanatory. This association meets on the last Tuesday of each month for the purpose of placing the honey of the members on the market, fixing the price, and for the transaction of any other business that may come up pertaining to the bee-keeping interests of its members.

I think Dr. Miller stands for protecting prior acquisition of territory. If so he will stand up and listen to a custom that the bee-men of Imperial Valley propose to follow. At the regular meeting in September the inclosed bulletin was ordered sent out by an almost unanimous vote. At the regular October meeting a motion was carried that the five last named on the information committee be made into an adjustment committee. Then there was a resolution adopted, and incorporated in the minutes of the association as follows:

*Resolved*, That the adjustment committee be instructed to accept all bees offered to them, and to use said bees in any manner, and as long as they are deemed necessary for the purpose of discouraging any person from placing or maintaining an apiary at any place where, in their judgment, said apiary might be detrimental to the interest of any bee-man who, by right of prior location, had the best right to said location.

After the adoption of the above resolution, on roll-call every member present except two offered 10 per cent of his bees for the purpose of carrying out the resolution. It looks very much as if any one coming into the valley and undertaking to override the custom here would get just what he deserves.

We want it distinctly understood that we will welcome and assist any who may come and *respect our custom*. There will be in time many good locations, but some will have to wait for them to become *profit-producing*.

El Centro, Cal., Oct. 29.

[Although it is not stated in so many words, it is inferred that the ten-per-cent contribution from the members is to be put in one or more lots, and that said lots are to be located right next to a yard of bees that is trespassing on another's territory, until the trespasser would be forced out and compelled to put his bees on territory not belonging to some one else. This would accomplish the result sought, and all would have to be good. The bulletin referred to is given below. —ED.]

To whom it may interest:

This article is written to meet the demands for facts and figures and reliable information about bee-keeping in Imperial Valley, which are being made in person and by letter to the Imperial Valley Bee-keepers' Association and its members.

The association has found it necessary to appoint a committee of six prominent bee-keepers, whose names and addresses appear below, for the purpose of giving information to non-residents who contemplate engaging in bee-keeping in Imperial Valley.

The committee has authorized the publication of this bulletin for the purpose of calling attention to a few facts which are well worth consideration.

1. The average yield per colony of extracted honey for 1908 has been about 100 pounds, or about half as much as the two preceding years.

2. During the fall and winter of 1907, 5000 stands of bees were shipped into Imperial Valley, and now with those previously located comprise about thirty apiaries ranging in size from 50 to 300 stands, and located all the way from one to three miles apart.

3. The second statement goes a long way toward explaining the first; for, while the shortage has been in part accounted for in various ways, the difference in the amount of honey obtained from different valley apiaries is easy traceable to the number of colonies kept in their respective neighborhoods.

4. The distance apart which apiaries may be run with profit in an alfalfa country depends altogether on the amount of alfalfa grown in proximity to the apiaries and the size of the apiaries. In Imperial Valley two to three miles is considered close enough.

5. The dairy or stock farmer is the valley bee-keeper's poorest neighbor, and the hay farmer his best.

6. The committee strongly advises all non-residents who contemplate engaging in bee-keeping in Imperial Valley to come first and see. Do not take any one's word for it. Come and see for yourself.

7. The information committee is composed of six of the leading bee-men of the valley, and represent different sections. Their duties are as follows:

To impart accurate information regarding the bee business, by letter or interview, to all who ask; to tell and show prospective locators where apiaries are now located, also of unoccupied locations, if there are any, in their neighborhood; to inform prospective locators of the rule or custom adopted unanimously by the stockholders of the Imperial Valley Bee-keepers' Association in open meeting, September 29, 1908, and which is as follows:

That in the future it shall be the rule or custom among bee-men of Imperial Valley not to locate apiaries closer together than two or three miles (according to pasturage and size of apiaries), and that all stockholders of the association shall observe this custom and give their moral support to remedy cases of violation.

7. All prospective locators should call on or correspond with any or all of the committee.

J. W. George, Imperial, Cal.
J. B. Whitaker, El Centro, Cal.
Thos. Phillips, Silsbee, Cal.
L. Davis, Brawley, Cal.
A. Bland, Holtville, Cal.
H. Perkins, Calexico, Cal.
Committee.

Imperial, Cal., Oct. 29.

# HEADS OF GRAIN

## FROM DIFFERENT FIELDS

POLLEN DROPPED AT HIVE ENTRANCE; LEAKY DOOLITTLE FEEDERS.

I should like to have you explain what makes the bees drop little loaves of bee-bread, at the front of the hive, to a seemingly wasteful extent. The bees in one of my hives do that, and they make a queer noise when out on the front of the hive—a kind of click-clack.

I bought some of the Doolittle division-board feeders, but can not make them hold the syrup. If you can tell me how to fix them I shall be very grateful. MRS. C. M. CLARK.

Hayward, Cal., Nov. 17.

[More or less of pollen is dropped at the entrance when bees are flying, more especially in the spring. The amount lost in this way is comparatively small. If you look in your hives at such times you will see that there is no lack of pollen in the combs. If any thing, there will be too much of it.

Doolittle feeders, if kept in a dry place, are likely to leak by reason of shrinkage. The trouble can be corrected by pouring about a gill of hot paraffine or wax into the feeder and rolling it around in such a way that the hot liquid will spread over the cracks; but in doing this, don't spread it all over, for then the bees can't climb out.—ED.]

ANTS AND OTHER "VERMIN" IN OLD MEXICO.

I find this is one of the greatest bee-fields. I see numbers of the natives have as many as 100 boxes, or hives. The hives as they construct them are boxes 3 feet long, both ends open, lying on a frame. The ants are so destructive that they master the bees even when the hives stand in water-basins. My object in writing this is to address Mr. A. I. Root. I have been reading after you for some time; and as this climate is very similar to that of your Florida home, the various pests are probably the same. The greatest plague here is the ant. They are very numerous. They are laying claims to the banana, the pineapple, potatoes, yuccas, and almost every thing else. Now, Mr. Root, can you advise me what to do to check this work of destruction in my truck-patch? The next pest is the gopher. If I could master these two pests I think I could succeed. My home is on the great Tamiahua Lake — no apiary closer than four miles Please advise me as to a remedy for the above, and also as to using your system of hives in place of the native system here.

Tamiahua, Mexico. J. A. CAMPBELL.

[My good friend, we had the same trouble on the island; but when Mr. Shumard had about 200 laying hens right in the dooryard and all around the apiary, not an ant troubled his hives.

Little chickens and big went for the ants just as soon as the nest was stirred up anywhere in the garden or apiary, until the ants decided that *that* was not a healthy locality for them. Finally the women-folks complained so much about having so many chickens around that Mr. Shumard fenced them off to another part of the island, and then the trouble with the ants began. He placed all his hives on benches with the legs standing in basins of water, as you suggest. But this was a good deal of trouble, for leaves and trash would get into the water, and the ants would get across. By putting some kerosene on the water it prevented the evaporation and repelled the ants better than pure water alone; but so long as he kept the chickens away, there was a constant warfare. Every little while the ants would find a hive unprotected, and sometimes they would almost ruin a good strong colony just over night. I do not know of any thing that succeeds so well as a lot of chickens.

I can not answer your question about gophers; but my impression is that a continual warfare with traps and guns, such as we have to wage on skunks, coons, rats, and mice, is the only remedy. A good dog trained to the business will take care of the most of such pests.—A. I. R.]

COMBS CONTAINING OLD POLLEN; HOW TO CLEAN UP OLD COMBS.

Will you kindly answer the following questions for me, which I could not locate in the index of the A B C book?

1. Is a comb pretty well filled with pollen a hindrance or a detriment to the brood-chamber? Sometimes we find such combs, and it appears that they are avoided, and the pollen is never cleaned out of them. What would you advise doing with such combs?

2. Combs that have dead larvæ in them (larvæ sealed and otherwise, that were suffocated through an error), how would you have them cleaned up? Will combs with decaying brood like these, when introduced into other colonies, be likely to bring about any disease?

3. Will bees clean up combs, or, rather, clean bees out of them, in which it appears they starved while wintering?

Elizabeth, N. J., July 15. T. E. DIENER.

[1. It depends somewhat upon conditions whether a comb of pollen is detrimental in the brood-chamber. Usually a comb containing a little pollen should be placed there, if it is not there already, in order to get the bees to storing it in the cells in the brood-nest rather than in the supers. Since the pollen is used so rapidly in brood-rearing, it should be as near the brood as possible. In the case of old combs, where the pollen has become too old, probably the best way is to mutilate the combs considerably by scratching the cells with some sharp-pointed tool. The cells should be scratched nearly down to the mid-rib; and when such a comb is given back to the bees they will clean out the pollen and patch it up so that it looks to be as good as any other comb.

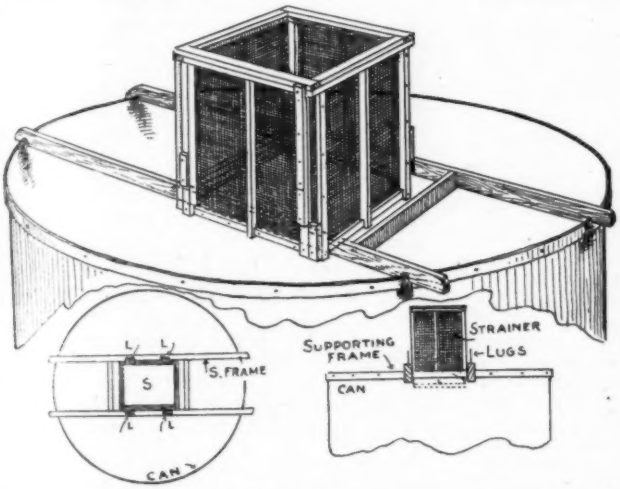
2. If you were sure that the larvæ had not died of some disease it would be safe enough to give the combs to some other colony, one at a time, to clean out; but we do not think this advice is safe enough to send out broadcast without a word of caution, for sometimes there might be disease existing, although there were practically no indications of it. We would advise you to be very careful, therefore; and before you distribute all the combs, if you are not absolutely sure, it

might be well to give one comb to one colony and see if there were any bad effects. Meanwhile keep all of the other combs, etc , away from any robbing bees.

3. If you do not give too many combs to one colony the bees will clean them out, even though there were dead bees in the cells.—ED.]

### A MODIFIED ALEXANDER STRAINER.

The illustration shows the honey-strainer that I have used for 3 years. A rack should be made of two sticks long enough to reach across the top of the honey tank or can. Cut notches in these sticks near each end, then nail two sticks between them the right distance apart so the strainer will fit in between, as shown.




To clean the strainer, put a bee-escape board with the escape left out over a colony; then put on an empty hive-body and set the strainer over night. It will be cleaned in fine shape by morning.

In lighting a smoker some are bothered by the match going out dropped in the cup. I take enough soft wood to cover the grate and then drop in a lighted match. I then add some hard wood, leaving the cover open while I adjust my veil. With this plan, the bellows should not be touched. I can't remember having it fail. I can see that greasy waste should light quick, but I have never tried it, as, in the country, wood is easier to get. IRVING KENYON.

Camillus, N. Y., Sept. 28.

### BEET SUGAR FOR FEEDING BEES IN SWEDEN.

Referring to Dr. Miller's request about sugar, I will say that here in Sweden beet sugar is produced to meet the needs of the country, and little or no cane sugar is imported. We have thus no sugar to feed our bees but beet, and the bees do well on this. I feed every autumn about 1000 pounds to 60 or 70 colonies. I pay about 8 cents a pound for sugar, and get about 17 cents for extracted honey. J. ENCLUND.

Kulla, Hjelstaby, Sweden, Nov. 13.

### SHALLOW SUPERS PREFERRED.

I notice in your editorial, page 1244, Oct 15, that you are trying and recommending the shallow extracting-supers. After using thousands of the deep supers in extracting in Southern and Central California I think I can get better results from the shallow super. I use a plain frame 5⅜ deep.

I start my comb-honey hives, in the spring, with a shallow extracting-super, as we have a light flow before the main honey-flow in this part of California. I can also grade my honey better, for I believe in ripe honey.

Paicines, Cal., Nov. 3. G. W. MOORE.

[The shallow extracting-supers are very handy for getting bees into the *habit* of going above with their surplus; then after the season is well on, comb-honey supers can be substituted. This plan gives us both comb and extracted honey.—ED.]

### CABBAGE PALMETTO YIELDS HONEY THAT SOURS QUICKLY; SAW PALMETTO HONEY EXCELLENT.

Cabbage-palmetto honey, sealed and unsealed, will foam as though fermentation were in progress; that taken from the combs unsealed will ferment enough to deprive it of all honey flavor, but the sealed only foams. Thin and acrid, and amber in color, it will flow bubbling from the cells behind the knife, and it is not a rare thing to see gas bubbles under the cappings of the sealed cells. Whether the colonies are strong or weak, it is always the same, when the bees work on the cabbage trees, as the common palm tree of Florida is called. The name comes from the fact that the bud in the head at the top of the tree is eaten in lieu of cabbage.

The saw-palmetto bloom is decidedly different in the nectar it yields. Saw-palmetto honey, even unsealed, may be called a good honey; and it is, too. When ripened it is a honey that makes a name for itself when enough care is taken by the producer to have it unmixed with other nectars.

I write from personal experience on the east coast of Florida, on the 28th paralell of latitude.

L. K. SMITH.

### CONDITIONS IN OKLAHOMA.

I have read nearly every thing in the A B C book, and have seen several copies of your journal; and in all of this reading I have not seen the word Oklahoma in print—not even in the advertising columns. This, together with the fact that my neighbors tell me that honey bees can not be raised here, is very discouraging to a beginner. They tell me that bees have been tried repeatedly here; and in Harper Co., Kan., just north of us, every trial was a failure. It is said that the high winds blow the bees so that they can't get back; that the open winters induce the bees to fly al-

most every day, and that the sudden changes catch them away from home and freeze them.

Over against these discouraging reports I may say I have just put the third super on a new hive, having two partly capped. I have taken out 15 sections of fine honey, all capped over.

Nashville, Okla., Sept. 29. G. E. LEMON.

[We should be glad to hear from any of our readers in Oklahoma who can tell whether the above conditions are serious. The trouble may have been with those who kept the bees.—ED.]

### WINTER CONDITIONS NEAR PORTLAND, OREGON.

In the back yard of a neighbor I saw to-day a bunch of sweet clover blooming as freely as could be expected in the summer. We have had a very mild winter here, however. Our coldest weather so far has been 29 degrees. It is a peculiar fact that here in the Willamette Valley tender plants may often freeze stiff; and yet if they thaw out slowly under clouds and in a damp atmosphere, they are seldom injured. Only when they thaw with a severe east wind or warm sunshine are they killed. Roses, carnations, and some other plants and shrubs are still blooming.

### DOUBLING UP COLONIES FOR THE PURPOSE OF CONSERVING THE HEAT FOR WINTER.

I thought I saw great things in this for successfully wintering bees here. I argued that two persons can generate more heat than one, and therefore require less covering than one. So I argued that two colonies would keep warmer doubled up than single, and that brood-rearing would begin much earlier in the spring than otherwise, and so the colonies would come out strong much earlier than otherwise. So in November I doubled up six single colonies with a queen-excluder between them, and left them so until the last of December, when on examination I found that in two of these double colonies the bees in the lower colony had gone above and left their queen below to die, supposedly, for we did not find her, though we did not examine the upper colony to see if she might have squeezed through the excluder. Concluding that it was unsafe to leave the two other colonies together I hastily separated them so as not to lose another queen. Some one in California wrote recently that he had splendid success wintering in this way. It seems strange that I had failure.

Portland, Ore., Jan. 29. P. J. GREEN.

### IS HONEY TAINTED BY GALVANIZED IRON?

Will galvanized iron taint or injure the flavor of honey? I can buy a new galvanized-iron tank cheap to put honey in to hold it until prices get better. DAN A. KELLER.

Hallendale, Fla., Oct. 29.

[Where there is a relatively large amount of galvanized iron to the honey (like a little in the bottom of an extractor), the honey will take on a bad brackish flavor if allowed to stand for a month. Such honey would be slightly poisonous, and, of course, unfit for use. It might cause sickness if eaten. But if the tank has a capacity of 30 gallons or more, and is kept full of honey, no harm results. In California it is the universal custom to store honey in large galvanized-iron tanks, and we never hear of any trouble or tainting of the flavor. Some of these big tanks hold 30 to 40 barrels, but even from these big tanks an inch or so of honey should not be allowed to stand for any length of time. It should be drawn off at once.—ED.]

### PRESSING HONEY FROM CAPPINGS.

After uncapping the combs in a box with a screen bottom I allow the cappings to drain until I am ready to press. When time suits me I lift out the cappings in balls pressed as tight as I can conveniently roll them.

The press is a simple one, of home manufacture. It suits my purpose very well, and costs but little. To make such a press, build rim of 1½-inch pine, 12 inches square and 7 deep, inside measurements, and bind it on the outside with hoop iron. Rib the sides on the inside with ⅜ in. strips placed ⅜ in. apart vertically. Then make a bottom and top of ⅜×1-inch strips placed on edge ⅜ inch apart, and run a ¼-inch iron rod through the ends and middle to hold them from turning over. This ribbing allows the honey to run out all around as it is pressed. There should be a sheet of tin underneath to convey the honey to the pail

Now place the rim over the bottom and put in the cappings wrapped in cheese-cloth, with a ¼-inch-mesh screen above and below. Now place the whole thing on a board foundation. Put board followers on top, small enough to fit inside the rim. Put two pieces of 2×6 hard wood, one above and one below, with a carpenter's iron bench-screw at each end. By tightening the screws at intervals the honey is squeezed out.

The tin underneath should project out far enough in front to clear the bench, and the whole press should be tilted forward so that the honey will run freely.

After the pressing I remove the cake from the press and place it in a sun extractor, or on a flat shallow dish in a moderately warm oven in such a manner that whatever honey is left will run off with wax when melted. JOHN BAILEY.

Bracebridge, Ont.

### WHITE CLOVER IN IOWA.

The outlook for white clover in Iowa is a little below the average. We had a dry fall and cattle gnawed things close. White clover being an annual, the seed that starts this fall and gets a good root is what gives us the honey. We have about 6 inches of snow now, which is favorable for the protection of plants.

Marshalltown, Iowa. E. C. WHEELER.

### RECIPE FOR PANCAKES WANTED.

Out here in Iowa we can now buy native buckwheat flour, but no one knows how to make cakes as the downeasters do, and no cook-book gives the formula. Can't you get some good Ohio farmer's wife to tell you, and you print in full in GLEANINGS? B. H. BARNES.

Des Moines, Ia., Dec. 4.

# OUR HOMES

BY A. I. ROOT

Blessed are the meek, for they shall inherit the earth.—MATT. 5:5.

Honor thy father and thy mother, as the Lord thy God hath commanded thee; that thy days may be prolonged, and that it may go well with thee in the land which the Lord thy God giveth thee.—DEUT. 5:16.

He that overcometh, and keepeth my works unto the end, to him will I give power over the nations.—REV. 2:26.

We are just breaking away from the rum power. The whole wide world is going through the process of emancipation. Not only are the saloons being put out of commission, but men who drink, and hold important public offices, are being relegated back to the ranks of the common people. Now comes the question, "*Who* is going to rule?" Our first text says the meek shall inherit the earth; and the last one says those who overcome self and selfish appetites and other evils shall have power over the nations; and our middle text says that those who obey their father and mother shall live longer than those who do not. I think a little observation will enable those who have lived long enough to decide that the clean, honest, God-fearing, and law-abiding citizen does live longer, and that he has a better chance to be a ruler over nations; but because of a bondage that has been a sort of environment around good men in times past, we have not yet emerged clear out of the darkness and into the light. As an illustration, we have not yet secured parcels post here in the United States, nor postal savings banks, and several other good things, just because of some men like Uncle Joe Cannon and other public officers who are under the dominion of the great express companies or insurance companies. The good people who have lived long, and whom God intended to rule over the nations and bless the earth, have remained at home and kept in the background. But a new order of things is being instituted. As I write, the papers tell us that the notorious grafter of San Francisco has just been pronounced guilty; and if he gets the penalty that fits his crime it will be fifteen years in the penitentiary.

There is a great amount of work to be done in this revolution that is now going on in the United States. We have had a sample of it during the last two weeks in our crusade to make Medina Co. dry. Ernest has been so busily occupied, and so much called for in every part of our county, that he declared his department of our business would have to stand over until election day. There are times and things that come to pass in these lives of ours that are far more important than business—things that can not be managed by proxy will have to stand still and *ought* to stand still. It makes me glad to think and know that the meek *shall* inherit the earth instead of the grafters and such like. And, by the way, it just begins to be made manifest, perhaps to a good many people, that those who lead simple lives and practice simple habits such as Mr. Terry has been teaching, and such as I have been trying to teach, will live and *do* live to see a generation born, and pass away, while we are permitted to live and be happy. Every few days my attention is called to people who are all gone —whole families. I can remember when certain ones were born; and I have watched them more or less while they lived through the average span of human life. Some of them seem worn out by hard toil; others die prematurely from the effects of drink, and some seem to rust out because they sit still and do nothing. When I mention to my friends, one after another, that Terry and I have started out for a hundred years, most of them reply, "Well, I do not want to live a hundred years." And I often think one reason why they look up and give honest expression to such a speech is because they have not had a taste of what God has in store for those who overcome all temptations to selfishness and excess. "To him that overcometh will I grant to sit with me in my throne." He who sits beside the great Father, and watches the unfolding of the great wonders that are going on in the universe, and begins to comprehend and catch on to God's great plan, can not help being happy. While wireless telegraphy, flying-machines, and things of that sort are being exploited, who would not like to live a little longer and get a little part of a glimpse of the great future that is unfolding? We should not desire to live, just out of idle curiosity. God wants us to help bring along the great work. He wants us to spread the glad tidings, to help lift humanity out of folly into light. I know you will not think I am boasting or bragging about what *I* have done, when I give place to a letter as follows:

It is now some 25 years since I noticed in a copy of GLEANINGS that Mr. Root offered the gift of a smoker free to any one who would quit smoking tobacco. I availed myself of that offer, and in due course of mail I got the smoker. At that time I had been a tobacco-smoker for 25 years, and no ordinary smoker at that. I used frequently to smoke in bed. I then and there gave up smoking, and never since have practiced the habit. I am now 75 years old, and have never regretted the pipe. People say they *can not* give up tobacco or whisky, which is all nonsense. It is not *can't* but *won't*. I did not break my pipe and throw away my tobacco to save myself the temptation, but placed them upon the chimney-piece, nice and handy. It was not long after I quit the habit that I realized the *intense selfishness* of the habit.

I mention the above as it may be pleasant for Mr. Root. His good work in the anti-tobacco warfare was not all a failure after all these years. A. W. THORNTON, MD.

Ferndale, Wash., March 19.

You will notice from the above that it was a physician who was encouraged to give up his tobacco—an example for others. Would it be a stretch of the imagination to think *he* has not only lived more years in consequence, but perhaps helped others to live and be happy? Besides urging the friends who read GLEANINGS to give up tobacco it has been my pleasant task to help fight the great white plague. See what this friend says:

Please send me two copies of the A B C of Getting Well and Keeping Well. We should be pleased to hear that Mrs. Gardner is still improving. Mrs. Zimmerman is a great deal stronger, and feels better than she has for a year or more. She has slept on an east porch with only a canvas for protection in stormy weather. JOSIAH ZIMMERMAN.

Greenspring, Ohio, Nov. 7.

From the above you see that a dear wife has probably been given a longer lease of life, and, more than that, she rather enjoys "taking her medicine." Since the question has been asked, I take pleasure in submitting the last postal card from the dear sister whom the doctors considered almost hopeless more than a year ago.

*Brother A. I.*:—Pytha and I are doing our own work this week to allow our maid to have a much-needed rest, so you see I am doing very well toward getting strong.

Manistee, Mich., Nov. 25. SARAH GARDNER.

What makes people die before their time? what stands in the way of their living to be a hundred years old? Mr. Terry and others suggest that it is thinking too much about what we eat, and spending a great part of our lives in collecting together a *great variety* of things to eat. May God help us in this kind of overcoming. The *Sunday School Times* hits emphatically on one of the things that make people die early. Let me quote:

Every fit of temper controlled, every orderly habit learned, every patient bit of work held to and carried out, strengthens the mind, he declares; and every passion yield d to, every carelessness and disorderly trait indulged, is a real mental danger. We can help to build up our own minds, or we can help to break them down.

I think there is no question that the above is right. A quarrel with your neighbor, especially a long-standing quarrel, shortens the lives of both parties. Overcoming a temper that has not been properly controlled is one of the things that are needed to enable us to live to a good old age.

There is another evil that sends people down to their graves prematurely. It is fostered and fed by intemperance. Some of you may smile when I suggest that going to theaters and circuses tends to shorten one's life aside from the evils of being up late nights and wasting money. Let me give you a clipping from the Cleveland *Plain Dealer*, from a sermon by Gypsy Smith, who has just closed a series of meetings in Cleveland:

I have been asked what my views are on the whisky question. Why, any fool ought to know where I stand. I would choke the devil with the last bottle. When the saloon-keepers go to the poorhouse, the others now there will get out.

I have been asked about divorce. You know what I think. The sooner you Americans remedy your divorce laws the sooner your nation will be secure among the great nations of the earth.

My views are just as sound on the theater question. The Lord would not have sat and giggled at a woman in tights. Would you like to see your sister or daughter in tights? Then don't pay to see another man's child.

The divorce business, without question, shortens lives, not only of the father and mother who are concerned in it, but of the poor children who are thus deprived of one or both of the parents. But it is the last paragraph in the extract from Gypsy Smith to which I wish to call your attention. I fear that there are thousands of otherwise good people, perhaps many of them church-members and heads of families, who do not realize that cultivating or encouraging a disposition to want to "see a woman in tights" shortens one's life. May God bless Gypsy Smith, and help him to teach and preach throughout a good long life.

Here is something else in the same line that I clip from the *Woman's National Daily*:

WOULD HANG "AFFINITIES."

The man who leaves his wife for an "affinity" might be hanged if the Rev. James T. Marshall, pastor of the Second Presbyterian Church in Oak Park, Ill., had his way. "The common murderer would make a good Christian Endeavor president in comparison with the men who suddenly discover affinities in wives of other men and put their discoveries in practice," he declared in a sermon on "The Seventh Commandment." "For the wretch who in hunger steals, for him who in anger strikes a blow, for him who falls under the temptation to drink, let us have charity. But for the low, libidinous leper who deserts his wife and seeks to cover up his nastiness with such adulterous sentimentality, let us keep nothing but vitriolic phials of wrath. They are the worst enemies of decency and order, and should be lashed to the uttermost limits of the law. It is to be hoped that our judges will realize their privileges."

Dr. Beaumont, who recently addressed an audience under the auspices of the Medina Y. M. C. A., asked the question in his speech why our penitentiaries need constant enlarging, and that, too, to take in boys between 16 and 25. Said he, "What means this terrible and great accession to the ranks of boys from 16 to 25 who must be accommodated in our penitentiaries?" Then he gave us the figures to show that these boys came from the cities, where there are many open saloons. Then he added that a startling proportion of them are children of divorced parents—children of the men and women whom Satan has persuaded have not found their "affinity." Amen to what Dr. Marshall has told us.

Education is a great thing—yes, it is a grand thing; but some of the great benefactors of the race have not had a chance to get an education—at least they had but a limited chance in childhood; but let not any of us be discouraged because our environments in early life seem to have been unfortunate. Here is what the *Sunday School Times* has to say in regard to it:

A half-witted child of God sharing a cup of cold water knows more of real happiness in that instant than a brilliant-minded "grafter" or cynic or atheist knows in a life-time. The will to do, not the brains to know, is the secret that is within the reach of all.

Now, then, friends, are you not ready to enlist under the banner mapped out from the three texts I have given you? "Not by might nor by power, but by my Spirit, saith the Lord." Let us hold on to the promise that it is God's plan still that the meek shall inherit the earth; and then, engraven on a slab of stone that Moses, that great warrior, carried, were the words, "Honor thy father and thy mother, that thy days may be long on the land which the Lord thy God giveth thee;" and surely there will be no divorces, neither shall there be any accession from the ranks of young men on the way to the penitentiary. And, finally, it will be the true, steady, temperate men—those who have "*overcome*" *all* selfish and evil habits, that shall be delegated, by overcoming evil, to have power and to *rule* over the nations.

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DR. MILLER TELLS US SOMETHING MORE ABOUT HIS FIRST VISIT TO MEDINA, O., IN 1871.

*Dear old Friend:*—After the lapse of so much time it is not easy to recall every thing in clear sequence; but as nearly as I can remember I'll tell you a little about it.

My first visit to Medina was not in 1874, but in the summer of 1871—see *A. B. Journal*, Vol. VI., 1871, page 74, column 2. I think it was in the after part of the day, and I stopped at the hotel and then went to call on you. You insisted on my stopping with you, went to the hotel with me and got my grip, and I was with you until I left the next day.

You mention GLEANINGS as being started. Was it not started a year or two later?

You are right. The first issue of GLEANINGS was sent out in January, 1873.

You give more or less the impression that I went to your place deliberately planning to influence you toward things of righteousness. I am not sure that I had any other thought in going there than to learn something about bees. Incidentally there came the opportunity to say something to you, and, according to my habit, I embraced the opportunity, although I think that perhaps I *did* talk to you with more plainness and earnestness than usual, for I thought there was unusually good soil for sowing the seed.

Now it seems an ungrateful thing to do, to make you trouble to revise your memory, but I know you'd rather have things right.

Besides the above, Dr. Miller corrects some of the statements I made in my write-up of our first acquaintance that happened so long ago:

*Old Friend:*—And that "old" doesn't refer to the number of years you have lived, but to the number of years I've counted you as a friend. Let's see—1871 from 1908 leaves 37—thirty-seven years "since first we were acquaint," more than an aver-

age lifetime. Well, old friend, we're neither of us yet living in the past, there's so much to look forward to in the future, and there's such a glorious present—the best period in the history of the world—but it's worth while now and then to stop just a minute and look back over the way through which we've been led.

That first visit to Medina was an event—at least with me. At that time you didn't know me, but I knew you. Among the writers for *The American Bee Journal* at that time was one who wrote over a *nom de plume*, "Novice," whose writings attracted me more than any other. There was an infectious enthusiasm about them. Successes and failures were recorded with equal fullness. So when I learned that the real name of "Novice" was A. I. Root, and that he lived at Medina, Ohio, I made sure to take in Medina the first time I was in that part of Ohio. It was somewhat out of the way, and the only way I could get there was by stage. Think of it! with the fine railroad facilities there are there now.

Although I had kept bees some four years longer than you, you had far outstripped me in making a brilliant success of it, but I think I was your match in enthusiasm; and, didn't we talk! Not a few times since then we have been bedfellows at conventions, and it so happened, on account of a visiting relative, that there was a shortage of bed room that night, and we occupied the same bed. The last thing I remember before dropping to sleep was your detailing a scheme for running the sap from maple trees directly into the hives. Whether you intended to have a hive under each tree, or, anticipating John D. Rockefeller, have a system of pipe-lines, I do not now remember. Your scheme of having a hive planted in a hotbed was not on the carpet just at that time. I wonder just how much of romance and wild scheming there must be in a man's make-up to make him a real success in any particular line. Carried too far, it makes a man a mere visionary, who never gets anywhere, but it's doubtful that there ever was a really successful bee-keeper who did not more or less indulge in day-dreams. He'll make a lot of blunders and go wild in many things, but he'll have a lot of fun while doing it, and he'll finally get there. And *you* got there.

I didn't make an inventory of the things I learned while there, but I may remind you of one thing you learned from me. I showed you my way of smoking bees. Think of it! Giving instruction in smoking bees to a man who has sown bee-smokers by the thousand all over the world! I'm not sure, but previously your plan was, perhaps, to have a burning brand to be held in the hand. I can not imagine your using tobacco—the usual practice at that time. Well, my improvement was to have a pan of burning coals on which the smoking brands could lie. You seemed quite pleased with the acquisition, but within a day or so your burning pan set fire to the sawdust you had piled in front of a hive, and you came pretty near burning up the whole business. I wonder if that started you in having such an interest in smokers. Probably you would have made smokers all the same if you had never used an old tin pan, but your true enthusiast is always tickled over the slightest improvement, for it's almost stretching the use of the word "improvement" to apply it to the pan as compared with holding the brand in the hand, blowing with the breath in either case.

It has always been a pleasure to me to remember that I did not fail to speak an earnest word, when the opportunity offered, that might help at least a little in starting in the way of righteousness one who has since done so much to guide others. "A word in due season, how good is it!"

First and last I've written a good bit about bees in my time, and I wonder if you know that you gave me my first real start at it. When comb foundation was first mentioned I was somewhat eager to learn about it. I thought I'd like to know how the thing was made, and wrote to you for particulars. But I looked in vain for information in succeeding numbers of the *American Bee Journal*, for, of course, it was not possible for you to tell me how to make foundation without any thing in the way of a machine. All the same I tried my hand at it. I don't know that I had any idea that foundation should be embossed. I poured hot wax into a pail of water, and it cooled into a sheet, but it was not a very thin sheet. The bees used it, however—after a fashion. Then I dipped a sheet of paper in hot wax, and the bees did not such bad work with the coated paper.

Ernest suggested that Dr. Miller did have some failures, and some of them not very long ago. In answer to the question, he replies as follows:

The years 1901 and 1906 were failures. Formerly poor years outnumbered the good. The proportion has been reversed, good years now being the rule.

In the upper corner of a brood-frame, where the bees never used it for brood, was a piece of coated paper that had writing on it, and for years I could hold it up to the light and see the writing. Possibly it is in existence yet, but I don't know where.

Well, that was not what started me to writing for publication, but it was writing to you at another time that did. Sections made their appearance, and I didn't make satisfactory work fastening foundation in them. That was before the day of foundation-fasteners, and the only sections were four-piece, the top-bar having in it a saw-kerf in which the foundation was held, the top-bar being split partly open to receive the foundation. You had by that time started a little publication in which you answered questions—although it had the same name it differed no little from GLEANINGS of to-day—and in that you agreed to answer any questions sent to you. So I wrote, asking how to put foundation in sections. In order that you might fully understand the case, I described in detail just how I had been doing, even making a little diagram. Imagine my mixed feeling of surprise, disappointment, and gratification, upon finding my letter printed in next GLEANINGS, word for word, diagram and all, with never a word of reply, and you *paid me* for it! I thought if it was worth while to write about things I *couldn't* do, it might be worth while to write about things I thought I *could* do, and I've written for GLEANINGS several times since.

You've been wondering whether, when I've had such fine crops of honey, I've said, "Praise God, from whom all blessings flow." I don't think I ever did. I used a more direct form If some earthly friend should give me so much nice honey, the least I could do would be to say, "I thank you;" and as I have taken super after super of nice sections from the hive, I've always had the feeling that each one was handed to me by the loving heavenly Father, and many and many a time I've said aloud, with no one but God and the bees to hear me, "O God! I thank thee!" What a comfort it is to know just who it is that gives us such nice things, and to be able to thank a real person for them, instead of having a general vague feeling of thankfulness without anybody in particular to thank!

While I think it may be good policy for some to renew their queens frequently, I'm in hearty sympathy with you in thinking that many a queen would have the best of her life cut out if not allowed to live beyond a certain date. Some of these days I believe more attention will be paid to longevity than it now receives, and it's rather poor encouragement toward that sort of thing if a queen is told that if she makes any attempt toward a long life the punishment for that sort of ambition will be a violent death.

Well, well! what a lot of changes in bee-keeping as well as in other things have taken place "since first we were acquaint!" and I don't see that we're nearer the end than we were at the beginning. Just as many new problems are coming up as ever. I'd like to see what new ones bee-keepers will be struggling with twenty years from now. Yes, I *would* like to live to be a hundred, if for nothing else than to tag along after you and Terry to see how you make it. And no doubt a live interest in bees, poultry, potatoes, or whatever, will help to make one live longer. Possibly, however, it isn't best to live too long. Five minutes taste of the next life may make us wish we hadn't stayed so long here. Each year of this life seems better than the last, and I'm sure the life ahead will be better than this.

C. C. MILLER.

Marengo, Ill., Nov. 24, 1908.

# TEMPERANCE.

### BEE-KEEPERS AS TEMPERANCE REFORMERS.

On p. 1332, Nov. 1, I said that brother York's address would probably be found in the *American Bee Journal;* but as I do not see it there we have concluded to give it in GLEANINGS. It was delivered at the Detroit meeting of the National Bee-keepers' Association, among some other "toasts" given at the second evening session.

*Mr. Toastmaster—Ladies and Gentlemen:*—The pathway of the reformer is usually strewn; not with flowers, but with hardships and *some stings*. It is not unlike that of the bee-keeper, at least so far as it relates to stings, only the bee-keeper's stings are of a different character and source.

I think it was the poet Whittier who advised young men to ally themselves with some unpopular righteous cause, and then push to make it win. The day *was* when the temperance cause could be classed with the unpopular causes, but not so to-day. It is rapidly getting to be *very* popular these days to be on the side of temperance and prohibition of the liquor traffic, and against the open legalized American saloon.

But *are* bee-keepers temperance reformers? My experience with them for nearly a quarter of a century has very clearly shown that practically all bee-keepers are on the side of temperance and prohibition, and the rest are coming fast. Bee-keeping and intemperance don't go well together. It is a combination that would be likely to result in *more stings*, and may be some "snakebites" as well. Surely the bee-keeper who *indulges* in strong drink is *stung* and bitten in more ways than one.

"I have such an indulgent husband," said a good lady. Whereupon her friend, Mrs. Spiteful, said, "Yes, so John says. Sometimes *indulges* a little too much, doesn't he?" How thankful is Mrs. Beekeeper that *her* husband is among the right kind of indulgent ones!

It is a fact that practically all of our leading bee-keepers are temperance men, and, I dare say, put their principles into practice and full effect at the ballot-box whenever an opportunity arises so to do. Now, there is the "Grand Old Man" of beedom, Dr. Miller, of the *West*. He stands four-square on temperance and prohibition. And so does that other Grand Old Man of the *East*, Mr. Doolittle, who *does so much*. And then there is A. I. Root. He's been "Rooting" around for a good many years, and I have always thought from his sermonettes that he would not be caught running a saloon should he ever quit running a bee-supply business and raising "garden-sass." I think all will concede that *A. I. R.* isn't afflicted with "*hot-air*" when it comes to the temperance question and a few other moral subjects.

I might go on and name a glorious company of bee-keepers from all over this and other lands—even over in Canada—who are temperance reformers, and who would do their utmost to help wipe the saloon curse off the earth. But there are so many that it would be impossible for me to name or count them. The proper place to count those in the United States will be at the polls on Nov. 3d, when, no doubt, they'll be just "*Chahn*" to roll up a big vote for the great reform which all mankind should want to see win.

Now for a little personal experience with bee-keepers on this drink question. As a good many know, I have not failed to attend a single National bee-keepers' convention, and some others not national, during the past fifteen years. And I am most happy to say that on only *one* occasion have I ever been asked to take a drink. That was in Canada, I regret to say. Of course, that particular Canuck wanted to *treat* me right while I was enjoying existence under the flag of Her Majesty, Queen Victoria, at that time—1895. But I never blamed the rest of my good Canadian brethren for the mistaken kindness of that one of their goodly number; for he was much in the condition of a man whose good wife said to him, "Now, Jim, when you're full, instead of asking for more *beer* why don't you ask for *sarsaparilla?*"

"Well, by Jove," he said, "when I'm so full as that, I can't say *sar-sap-a-ril-la!*"

All who have made a practice of attending these gatherings of bee-keepers know how seldom we see one of our crowd smoking, and (now) *never* drinking. When the convention was held here about 25 years ago we had to pay $40 rent for the hall in the third story of a building. The owner of the building kept a saloon in the basement, and, oh how bitterly he talked when he was paid his rent! He said, "If I had known what kind of a set of fellows you were you would never have got that hall for that money. *Not one of you has been in my saloon!*"

At the hotel opposite, where most of the convention members stopped at that convention, the boy at the cigar-counter was heard to say, "Queer crowd this. Do you know I have sold them *just three cigars!*" (And *I* should say that was just three cigars too many.) The fact is, the name "bee-keeper" is almost synonymous with "temperance," and I rejoice in it. We can all help to hasten the dawning of that blessed day when there shall not be a saloon or drunken man on the face of this beautiful earth of ours.

Temperance and prohibition have made such rapid advances during the past few years that to-day some forty million people of the United States live under a "*stainless flag*" so far as the open saloon is concerned. And I truly believe that, before another ten years shall have passed, there will not be a legally open saloon beneath fair Columbia's flag of freedom.

But we shall have to settle this great liquor question among ourselves. And this reminds me of a story I once heard. It occurred in Alabama. A colored man had a little pig he wanted to sell. A white man came along in the morning in his wagon and bought the pig for $3.00. He drove away, but somehow the little squealer managed to get out, and ran back home to its little pen. About the time it arrived, another white man came along who also wanted to buy a pig. He bought it, and paid the colored man $3.00 for it. He had not gone far when he met the man who *first* bought the pig, and was asked where he got that pig. "Why, I just bought it from the colored man up the road."

"Well, that pig is *mine*," said the man who bought it in the morning. "I was driving along, and somehow it got out and must have returned home. Let's go back and see that nigger, and find out why he treats us in that way."

Arrived at the negro's cabin, the first man asked, "Didn't you sell me that pig this morning for $3.00?"

"Yes, sah, ah did," said the darkey.

"And didn't you sell the same pig for $3.00 to this man a little later?"

"I did, sah," was the answer.

"Well, what kind of treatment is that?"

Whereupon he gave the following reply in a self-satisfied manner: "Well, now, gen'men, can't you go way by yourselves and settle dat little question?"

It is up to us all to settle among ourselves the question of the liquor business. We can't shift responsibility as the colored man in Alabama tried to do.

Referring again to the tobacco question among bee-keepers, which is really the temperance question in another direction, I am reminded of an incident that occurred in Chicago when Newman & Son were in the bee-supply business and I was in their employ. A bee-keeper called to get some supplies, and after buying several things Mr. Newman, Junior, said, "And now wouldn't you like a smoker?" meaning, of course, a Bingham bee-smoker in those days. Very promptly came the reply from the bee-keeper, "No, thank you, *I don't smoke!*"

I think it was in Philadelphia that a bee-keeper of the temperate kind was employed. As he was about to change to another position he asked for a recommendation from his old employer. He was granted his request, the testimonial reading, "The bearer, Mr. Beeman, is industrious, hard working, faithful, *and sober*," etc. After reading it over, Mr. Beeman asked his former employer if he would please make it a little *stronger*. Why, of course, he said he would if only he knew how Mr. Beeman would like to have it. Whereupon the bee-man said, "Put it this way:

"Mr. Beeman is industrious, hard-working, faithful, and *often* sober." He thought "*often* sober" was better than plain *sober*.

Of course, he was an exception, and probably came from the Emerald Isle.

But I must not continue longer. I wish only to say that I am proud to be one of such a royal, temperate company as are the bee-kepeers of this and other lands. But *we* must not fold our hands and sit idly by while our fellow-men are pushing the battle against the open saloon. We must do *our* part to raise the nation's manhood. We must let *our* light shine, we must use *our* influence—yes, and our *ballots*—whenever an opportunity is presented to strike the demon Drink a killing blow.

How long, how long this degradation,
To blight the manhood of the nation?
How long fair woman's name dishonor,
Heaping shame and grief upon her
Whose gentle voice so long hath plead,
Whose feet so long have sunward led—
Little voices vainly crying,
Joy of childhood crushed and dying?

Defend the home! Protect the school!
Blow, blow a ringing bugle note!
For mahhood strike! for manood vote!
Till manhood rules from sea to sea,
Magnificent in victory;
Till mountain-peak and prairie sing;
Till our broad land, redeemed, shall ring:
*Manhood is king!*

GEO. W. YORK.

That story about the darkey and the pig is a magnificent illustration of the way things have been done in times past. From the celebrated "nullification act" when they tried to put out the canteen, we have had evasion, shirking of responsibility, and no end of subterfuges and excuses, not only among common people but among those who are away up high in sacred and important offices. Yes, we have been obliged to *put up with* miserable and shameful evasions and excuses as a reason for *not* enforcing our laws and closing up the saloons, gambling-houses, and places of ill fame connected with the drink traffic. Bro. York did not go on with his story and tell us whether the two men who bought and paid for the same pig submitted to that sort of philosophy. Well, *we* have submitted and put up with it, and *let it go* for many long tedious years in times past. But, may the Lord be praised, we are now in the midst of an awakening; and common sense and some sort of show of justice *is* taking the place of such ridiculous philosophy.

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### WILBUR WRIGHT STILL BREAKING RECORDS.

On the 18th of Dec., Wilbur Wright (so the *Plain Dealer* tells us) "smashed two world's air records." He stayed up in the air *almost* two hours, went over 60 miles, and ascended higher than he had done on previous flights. He also encountered a gust of wind that made his machine back up and plunge like a restive young colt, but he pulled it back into shape while the (at first) "terrified spectators" cheered him with loud shouts. How about his pupils? Can any of them yet run the machine alone?